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PASSIM

WITH another Christmas behind us and with the return to normal routine, some of us will look back with regret to the topsy-turvydom and genial atmosphere of the last two weeks, while others will heave a thankful sigh of relief that another twelve months must elapse before the general routine of the Hospital is again disturbed by the gaiety of Christmas.

With Christmas falling upon a Sunday this year the holiday, if it can be described as such, was more protracted than usual, and therefore imposed a greater strain on those who had the responsibility of organising the various amusements. However much they may have complained of the extra work which these festivities entailed and in spite of the traditional grumbling which one comes to expect, we can only congratulate them on the excellence of the various entertainments which were provided. In fact, Christmas this year seems to have been an enormous success. On Boxing Day the "Niggers" battled manfully from ward to ward, and only occasionally were words forgotten or lines omitted, a fact which was usually successfully camouflaged by the excellence of the accompanist, to whom they owed so much. The costumes were even more variegated and, we venture to hope, less unbecoming than usual, and if the various audiences enjoyed listening to them as much as the "Niggers" enjoyed performing, they must have had a very pleasant time. A fact which must constitute a record, and which we feel should not pass without comment, is that of the merry band which sallied forth at 10.30 in the morning no member was missing when the final songs were sung at 6.30 in Astley Cooper.

Concerts were held in the various wards on the following three days at which local and outside talent performed. The former consisted chiefly of a select band of "Niggers" touring the wards, who presumably, and we suggest rightly, felt that so much practising should not be wasted on merely one performance, although the cacophony of sound which issues from the College bathrooms between the hours of 8.30 and 10.30 in the morning might by now be suitably discontinued!

The Christmas festivities culminated on Friday night with the Nurses' Dance, which was held in the Nurses' Home and which proved to be the enjoyable function which everyone has now come to expect.

And now we are merely left with that after-Christmas feeling and perhaps a headache, both of which we hope will soon be dispelled by the return to everyday existence.

▭

IT is with deep sorrow and regret that we have to announce the death last Monday of Professor R. Donaldson, our Professor of Pathology. The suddenness of it all came as a cruel shock to all at Guy's, and we extend sincere sympathies to his wife and children. A memorial service was held at Muswell Hill Presbyterian Church on Friday, January 6th, at 3 p.m. An obituary notice of Professor Donaldson will appear in our next issue.

▭

THE Superintendent, we know, expects every house officer to do his duty, but we feel that even he would be surprised at the zeal of a certain Houseman who disorganised an entire railway company, and stopped and even delayed one of the most famous of English Expresses in order that he might complete a dramatic dash to the bedside of a patient. What courage! What grim determination! In fine, what Ernestness!

ALTHOUGH it is a rather tardy greeting, we should like to wish all our readers a Happy and Prosperous New Year. By the time this appears, propably all those excellent resolutions which we made so seriously will be already broken, and reasons why we should eat, drink and smoke more rather than less will be by this time sufficiently cogent to satisfy our consciences.

WE have been asked by Sister Out-Patients to thank all those who gave toys and other gifts and who helped to make the Landon Tea such a success.

IT is hoped to hold the Residents' Play this year on February 6th and the four successive days.

WE should like to congratulate the following on their appointment as Clinicals :—

Mr. J. C. Colbeck.	Mr. B. McArdle.
Mr. W. G. Gill.	Mr. J. B. C. Murdoch.
Mr. F. Kilpatrick.	Mr. R. A. Ratcliffe.

Social Service in the Department of Psychological Medicine

A Review of Work for the Past Three Years, by Miss E. M. Findlay,* Psychiatric Social Worker, Department of Nervous Diseases and Psychological Medicine, Guy's Hospital

GUY'S HOSPITAL has always been a pioneer in the treatment of mental illness. By his will dated the 4th September, 1724, Thomas Guy expressed the wish that the Trustees of his will, to be incorporated for the purpose of administering the hospital now known as Guy's Hospital, should " receive and entertain Lunaticks, adjudged or called, as aforesaid, Incurable, not exceeding twenty in number at one time; such poor persons to be chosen and appointed by his said Executors and Trustees, out of such patients and persons who shall be discharged out of the Hospital of St. Thomas or Bethlehem, or other Hospitals, on account of the small hopes of their cure, or the great length of time for that purpose required or thought necessary."

In accordance with the expressed wishes of the Founder, a ward for the reception of persons of unsound mind was provided from the time that the hospital was opened, and accommodated 20 lunatics.

The following is an extract from the minutes of evidence taken before a select committee appointed in 1815 to consider the provision being made for the proper regulation of Madhouses in England :—

> ' Witness, Mr. Edward Wakefield, described in response to questions the provisions made at Guy's Hospital: ' There is one Ward for twenty female patients, known as " incurables "; this Ward is situated 150 yards away from the rest of the buildings, and is, therefore, not a cause of disturbance.' Witness mentioned that instead of Strait Jackets being used, the dangerous patients are restrained with a leather belt with a strap round each arm. There are specially constructed beds, so that the bedding of those patients without control of urine is kept wholesome. *In all other respects, this Hospital is more suitably constructed than any other Hospital for the Insane.*" (Italics ours.)

The lunatics' ward was maintained at Guy's until 1860, when the Governors decided to discontinue for a time at least the reception and charge of lunatics. In acting thus upon the discretionary powers given them by the Founder's will, the Governors were influenced by the belief, " the correctness of which there is little room to doubt, that however useful it might have been at a former period when there was little provision of any kind for the care of poor persons of unsound mind, and that which existed was of a very exceptional quality, to include wards for lunatics amongst the requirements of a general hospital, the time for such an arrangement was now past; and that this class of patients would be more successfully dealt with in establishments exclusively appropriated to their treatment, such as are now to be found through the humane provisions of the legislature in every part of the country, than they could possibly be, whatever amount of care was bestowed upon them, whilst constituting only a subordinate department of an institution of a miscellaneous character."

From 1860 onwards no provision was made for the reception of in-patients suffering from mental diseases, though the Physician for Mental Diseases was a member of the Visiting Staff of the hospital, and was available for consultation in cases of mental disease. In 1911 the Governors, realising the importance of the diagnosis and treatment of mental disease in its early stages, approved of a recommendation of the Medical Committee that the title of Physician for Mental Diseases should be altered to that of Physician for Psychological Medicine, and that he should attend in the Out-

* The writer is indebted to Mr. H. L. Eason, Superintendent of the Hospital, for many of the historical notes.

Patient Department twice each month to examine cases in conjunction with the Physician in charge of Diseases of the Nervous System.

The Physician for Psychological Medicine now sits twice a week in the Out-Patient Department with the Physician in charge of the Department for Nervous Diseases, in order that cases of early mental disease may be seen and treated, and also all cases on the border line between organic and functional nervous disease.

In 1925 the Governors appointed a half-time Social Worker to the Department of Psychological Medicine, and her duties were to take patients' histories and to do such after-care work for patients as might be required by the Medical Staff. The whole cost was met by the hospital, and the appointment was the first of its kind to be made in any general hospital.

In 1929 a whole-time worker was substituted for the half-time post.

The Mental Treatment Act of 1930 has drawn the attention of both doctors and the laity to the extreme importance of the early treatment of patients exhibiting any kind of mental instability. The immediate effect of this emphasis has been to increase the number of early curable cases referred to the Department by medical men both within and without the hospital. From another angle also it has stimulated medical practitioners already engaged in treating cases of severe mental illness, who already hold hospital appointments, to desire to study and to treat early cases of similar disorders, such as appear in an Out-Patient Department for Psychological Medicine. The opportunity that can be offered for this kind of work is of course, limited, and at the present time the capacity of the Department is strained to its utmost by the presence of seven Clinical Assistants, who attend regularly and work under the direction of the Physician for Psychological Medicine. There is also a Chief Clinical Assistant, and in the immediate future the staff of the Department will be increased by the appointment of the Fripp Fellow in Child Psychology. There is, therefore, now a total of ten doctors regularly working in the Department as compared with three in 1929.

The patients benefit greatly by this increase in the medical staff, as many are able to receive efficient individual treatment in private, whereas formerly they would have had to receive a briefer form of treatment before an audience.

It is the custom that, as a matter of routine, a social history and a school report are obtained for each child, but only a limited number of adults are recommended for social service. This may take the form of the provision of a complete social history for the better understanding of the case, or of after-care, such as the arrangement of adequate recreational facilities, or a change in a patient's work or domicile—in fact, anything that the physician cannot do in hospital. It follows that effective social work must follow on effective psychiatric work, if the patient is to benefit fully from the latter. For example, a girl of 18 years old was receiving treatment; the doctor asked for a social history, which had to be obtained from the family, who lived in a country district. It was impossible to carry on the treatment until the information contained in the social history had been procured. Another girl of 17 years old had been referred on account of difficulty arising from her personality; she responded to treatment, but it was found essential to change her work and to find her fresh quarters to live in. Work was obtained, and a room found in a suitable hostel, but the girl was not able to support herself entirely; the balance required was raised from relations and several outside agencies, and now she is well on the way to independence. If the help of the Social Service Department had not been forthcoming, the work done by the doctor would have been entirely wasted. These are only two typical examples of many similar cases.

Three years ago there were two Out-Patient Clinics a week; now a third, held on Thursday afternoons, especially for children under 16, has been opened in response to a general demand. In this, children referred from other departments of the hospital, from private doctors, or from the Juvenile Courts, are seen. These are referred for full study, *i.e.*, "Social, Physical, Psychological, and Psychiatric." The social work entails visiting the homes, seeing the parents (usually both the father and the mother) and any other person who may influence the life of the child. Other agencies who know the family have to be consulted, and reports have to be obtained from the head teacher of the school at which the child attends. A patient who presents an acute problem may require very frequent visiting for several weeks; this has to be carefully done, thought out and prepared for beforehand, and usually it takes rather a long time if the parents' sympathy and co-operation are to be actively maintained. The resulting interview has to be carefully reported to the Psychiatrist for discussion and as a basis for his future treatment of the patient.

It usually takes a minimum of an hour to take a history, and this is probably considerably less than the time generally required. Histories taken at subsequent visits usually take from an hour upwards. An added difficulty is that the homes

of patients referred to the Department are distributed over a very wide area, and even when visits are confined to patients living in London the time involved in travelling considerable distances has to be included. It is rarely possible for the social service worker to obtain more than four or five histories in the time available for her visiting. The average number of visits paid this year is just over five a day.

It is not possible for the social service worker to pay visits to the homes on more than one day a week, owing to the number of clinics, to the amount of reporting, and to the office work which has to be done at other times.

In addition, the psychiatric social worker has to act as an interpreter to other agencies, such as the Charity Organisation Society, the Invalid Children's Aid Association, the Friends of the Poor, Care Committees, etc., who may be interested in the patient, by explaining to them the exact significance of this kind of care-work to their workers, to whom it is not familiar. This is done partly by holding conferences at the hospital, to which those interested in the patient are invited, and partly through discussion with individual workers.

Again, over and above these interviews, the social service worker is often requested by doctors (both at home and abroad), nurses, social workers and others, for information concerning this branch of the work done in the hospital. A certain number of these have permission to attend an Out-Patient Clinic, but this privilege does not appear to give them all the information they require, and often later and lengthy interviews are requested. These increasingly frequent appeals are evidence of the very widespread fame of Guy's, its position in the vanguard of the teaching hospitals, and, as such, cannot well be disregarded. Bathurst, Auckland, California, Boston, Paris, India, South Africa, are all represented among the 40 visitors who have had interviews this year.

The usual number of social service workers required by a full-time psychiatrist is three. The ever-growing volume of work makes it difficult for one worker, unaided, to keep up the high standard set by the Department at Guy's. It is impossible to contemplate accepting untrained voluntary workers. The difficulty has been to some extent met during the past year by the assistance of two voluntary workers, each holding the Mental Health Certificate of the London School of Economics. One of these workers is now married, and the other has obtained a paid post. Unfortunately, there is no one now to take their places. Had it not been for the regular and untiring help of Miss Kennedy, herself an experienced secretary, supplemented by considerable assistance from trained but inexperienced students of Mrs. Hoster's Secretarial College, the heavy amount of correspondence and reporting could not have been satisfactorily carried out.

The work of the three Psychologists, which is also entirely voluntary, makes certain demands on the social service worker. Children can only attend for intelligence tests by appointment, and this entails a certain amount of correspondence. The Observation Room, or play-group, held weekly for about 12 children, also calls for similar attention.

It is obvious that if the standard of work set by the Governors of the hospital is to be maintained, at least one additional social worker should be appointed. It is hoped that funds may somehow be raised to provide this essential service.

News from the International Association of Hospital Specialists

THE International Hospital Association, whose developments are followed with increasing interest in every country, organised from the end of September, 1931, to the beginning of October, 1932, a first series of International Post-Graduate Courses on Hospital Technique at the Frankfurt-a-Main Municipal Hospital, attracting a large attendance of superintendents, physicians, matrons, architects and engineers, coming from 17 different countries. More than 30 internationally known specialists delivered lectures on important problems. Lively discussions followed their statements.

The lectures on kitchen management, hospital linen and laundry have been published—after being completed by interesting articles of other authors—in the October issue of *Nosokomeion*, the official organ of the International Hospital Association (publisher, W. Kohlhammer, Stuttgart).

From June 28th to July 3rd, 1933, the Third International Hospital Congress will meet at Knocke-sur-Mer, on the Belgian coast. The Study Committees of the International Hospital Association will submit their reports to the Congress. The discussion will enable the Congress to draw the outlines of practical conclusions having an international value. A five-day study trip to the Netherlands will follow the Congress.

The Sister and the A.H.S.

(A Dental Department Ditty)

THE sun was shining merrily,
Shining with all his might,
He did his very best to make
Cold London warm and bright;
And this was odd, because, you see,
The clouds hid him from sight.

The scene—the Conservation Room,
So crowded and so vast;
Some thirty youths, of joyous mien,
Their L.D.S. had passed,
Both those who passed at first attempt
And those who passed—at last!

The Sister and the A.H.S.
Were talking, close at hand;
They wept like anything to see
That very learnéd band.
"How they got through it," Sister said,
"I fail to understand."

"If certain men with lots of cash
Asked them—for half a year—
Do you suppose, now," Sister said,
"That they would all stay here?"
"I doubt it," said the A.H.S.,
And shed a bitter tear.

"Oh! L.D.S.'s, stay with us!"
The Sister did beseech,
"Or some of you, at any rate,
If 'all" are out of reach.
(We cannot do with more than three,
To give a job to each.)"

Then one Licentiate looked at her,
But never a word he said;
He merely stood and looked at her
And shook his curly head;
Meaning to say he did not choose
So soon to earn his bread.

But three young fellows hurried up,
All eager for the treat;
Their coats were washed, their hair was brushed,
Their boots were clean and neat—
And this was odd, because they all
Wore shoes upon their feet.

Three other fellows followed them,
And soon came 'most a score,
And, newly passed, they came at last,
And more, and more, and more;
All pushing past the other chaps
And crowding through the door.

"And now the Dean," the Sister said,
"Is whom we chiefly need,
And all the Dental Council, too,
Are very nice, indeed;
And what a chance for *all* you men
To earn your board and feed!"

Just then a *real* H.S. came up,
With cheerful, smiling face;
"Congrats., you chaps! But, by the way,
Before you leave this place
I'd like two bob from each of you—
My motives are not base.

"The Cleaners' Fund is almost due,
You all will soon have gone,
Now what about a 'sub.' from you?"
But answer there came none;
And this was scarcely odd, because
They'd vanished, every one!

"POSSUM."

(*With apologies to Lewis Carroll.*)

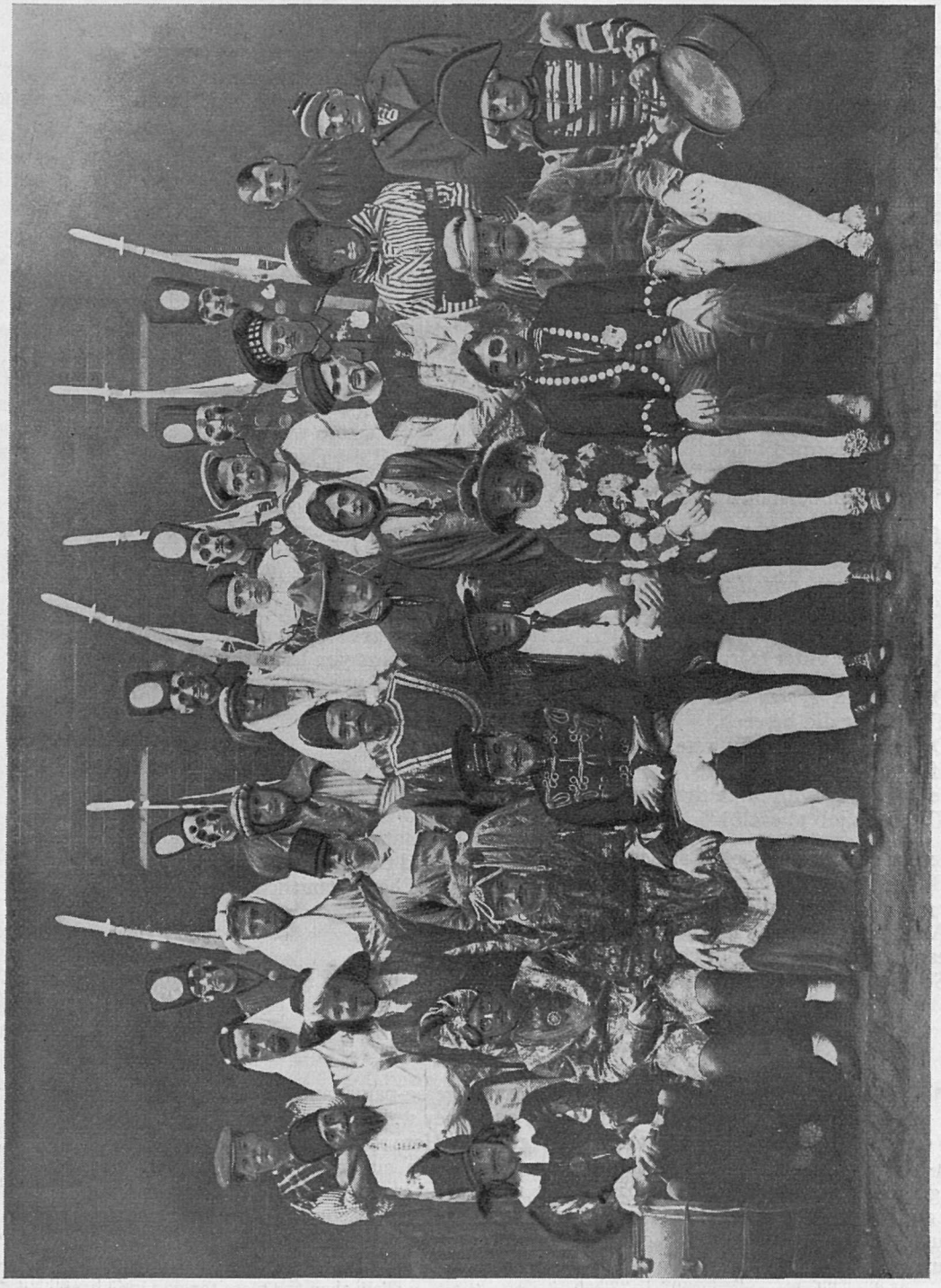
The Niggers, 1932

THERE was a thick fog obscuring the sun when, about 10.45 a.m. on Boxing Day, a curious collection of gaily apparelled and much-painted Residents streamed across from the College to the Colonnade, accompanied by the jeers and catcalls of a crowd of small boys and Borough inhabitants which had collected to see the fun.

Having been arranged by the photographer and attempting to smile as much as the stiffening grease-paint and unaccustomed hair permitted, they were duly led into Eyes.

Here they were given a good send-off by J. R. S. Sharp singing "Pack up your troubles" with great gusto, who followed it with a parody showing the futility of all skin therapeutics, which we reproduce below.

When you've got such an itchy little spot,
Well, then the place for you is Guy's.
Here you'll see Dr. Barber and his foreman,
And they'll pack you into Eyes;



THE NIGGERS, CHRISTMAS, 1932

They'll try sulphur and eau d'alibour,
They can't be suppressed ;
And when these won't function any more
They will get this off their chest :

Pack up your lotions and your ointments, Ma,
And scratch, scratch, scratch !
If pediculosis or the eczema,
Scratch, pa, on the patch !
What's the use of bathing 'em ?
They only start to hatch !
So, throw away your sulphur and your Wright's Coal Tar
And scratch ! scratch ! ! scratch ! ! !

This was followed by a duet by Bolton and Sharp—the former as a perfect representative of a fashionable Borough lady, complete with cap and hatpin, was most lifelike.

The O.P.O.'s then took the stage, and, in spite of their Arabian costumes, produced an enormous volume of fairly melodious sound.

In Queen, Sharp was quite shameless about his affections, Erskine showed us how to be merry and bright, and Southam, laying aside the big drum for a short moment, told us in obstetric terms about the " Younger Generation " and how to provide against their arrival in the following words :—

When you've decided to have your op. in Queen,
I've seen
So many things that I'll tell you what I mean ;
It's clean.
First of all there is Sister, frank and fiery and gay ;
She'll try hard to prepare you for the fateful day.
She has Mist. Alba and Triple Mixture, too,
For you ;
En. Sap. and Mag. Sulph. and Paraffin like glue,
It's true.
Pills I have not included,
But you must get occluded ;
Oh ! she's a tartar ; you'll be a martyr ;
I haven't been deluded.

But when you suspect—or recollect,
Or if you're feeling sure—
That the younger generation's knock, knock, knocking at the door,
Don't sit and wait ; don't hesitate
As you have done before.
When the younger generation's knock, knock, knocking at the door.
Though you have a breech or a vertex,
A primip. or multip.,
Don't make any difference to us.
Though you have albuminuria, disproportion,
Or dead fœtus ;
Come into Vic.—if you're not quick
You'll have it on the floor.
For the younger generation's knock, knock, knocking at the door.

And so to Mary, where the H.P.'s did their stuff in no uncertain manner. Windsor Lewis told us how he spent the night, and very uncomfortable it sounded, although in his coster outfit he looked tough enough to stand it. Wood went on to tell us how he had become ensnared, and sang about his tender passion with a ferocious grin painted on his face, which lent weight to his words. Massa Johnson then rose and told us where he would like to spend Christmas, in which he was supported by an enthusiastic chorus.

There was a short interval after Mary, during which the " Niggers " were refreshed and restored in the Medical Registrar's room, whence they burst into Clinical with renewed vigour. Here the Clinicals, dressed as soldiers, sang three songs with great effect, and produced perhaps the best performance of the day. The following parody was sung to the tune of " You have been wonderful to me " :—

We may seem glum, Sister, and rather dumb, Sister,
But we are sorry you are leaving us, you see ;
And though we know, Sister, you've got to go, Sister,
We can't help feeling jealous of young Edward P.

Yet it seems really quite absurd
That you and your canary bird
Will soon be mingling with the best of high Society.
And we feel sure that Edward P.
Will quite desert his family
As soon as he's found out how wonderful you can be.

From Clinical the " Niggers " descended upon Stephen, where Windsor Lewis confessed, quite unnecessarily, how many drinks he had consumed, and invited us to carry on the good work. Reid became remarkably sentimental, and Massa Johnson again sang about the joys of spring, a subject which seemed a little incongruous with his fearsome dress.

In Addison, the last ward before the interval, Wood, Owles and the Clinicals all sang and even the deafest patient can have had no difficulty in hearing every word, the enthusiastic choruses possibly being due to thoughts of lunch.

The Landon Tea was in full swing when the " Niggers " re-assembled at 2 p.m. and marched into the Out-Patient Hall, there to be greeted by hundreds of Borough children, who successfully drowned the opening chorus. When quiet was once more restored, the " Niggers " sang several choruses, in the most well-known of which the audience joined.

From Out-Patients they marched through Baby Ward, to the consternation of the inmates, most of whom dissolved into tears at the frightful spectacle.

The Surgical Wards were now attacked, and Knox startled Dorcas by a rendering of " Hallelujah," suitably attired in a coal-black face and self-accompanied by his ukelele. He was followed by Bradbeer singing " If you were the only girl

in the world " and a libellous parody which we print below :—

Nurses are very sweet and kind to you,
Sisters have their attractions dressed in blue.
I know, because I meet them every day ;
But now just let me tell you, if I may,
You'll think me very foolish, but I know
There is a nurse who'll catch you—
She's called a Junior Pro.

Chorus—

For he was a lonely Houseman at Guy's
And she was a Junior Pro.
He would meet her in the Park at 9 o'clock,
She would sit upon his knee and gently rock,
And he used to dream of her on his rounds—
That pretty young Junior Pro.
Then she made him buy an engagement ring,
He was bound to marry her in the spring,
So you watch your step and be circumspect,
When you meet a Junior Pro.

Following this effort, Knox, Bradbeer and Miller sang a trio extolling the virtues of a certain Dinah.

Martha was the next ward, where Treble, looking Mephistophelean indeed, told us how much longer he was a guest of His Majesty. Following him Cantor and Howell both gave tongue, when a short interval was proclaimed and tracks were made for the Surgeons' Room for lubrication.

In Evelyn, where the " Niggers " were hemmed in between floor and ceiling, Owles sang again, explaining the joys of domesticity ; Miller told us about the habits of flies, and the O.P.O.'s explained in no uncertain manner the difficulties of their job in the following parody, sung to the tune of " The sun has got his hat on " :—

Dolling out tonics
To arthritic chronics,
Prescribing Mist. Acidi Co. ;
Giving hypnotics
To " bloody neurotics "—
Gawd 'elp the poor O.P.O. !

" Had the wind all night, sir
(Hip, hip, hip, hooray),
Me stummick is too tight, sir,
And I'm passing wind all day.
Pains all down me back, sir
(Hip, hip, hip, hooray),
My body-belt's too slack, sir,
And I'm in an awful way.
Bowels will never move, sir ;
Think I've got a block,
Efforts don't improve, sir—
Motions like a rock.
Think I'll have that brown stuff
I had in nineteen-one ;
Only once a day, sir,
For it fairly makes me run."

In Patience and Samaritan, Erskine became remarkably doleful, Sharp produced some rather doubtful limericks, and Cooper sang the following parody to the tune of " Auf wiedersehn," looking more and more miserable every minute :—

Come, let us walk down Sparricks Row,
Each warehouse door is filled and so
I'll talk about my Wassermann,
My Wassermann, my dear.
Science has triumphed over all,
No longer will I cross the 'all,
For now at last my Wassermann
Is negative, my dear.

For years they've punctured me in my nether region,
The drugs they've stuck in me, their name is legion.
I am no longer double plus,
Which means an awful lot to us.
I'm positive my Wassermann
Is negative, my dear.

The Surgeons' Room was again invaded after this, and tea and other liquids were freely indulged in and the damage done was partially rectified.

In Christopher and Naaman, which was the next port of call, Miller gave a fine rendering of " Clementine," followed by Crowther Smith, who made up with enthusiasm what his song may have lacked in tune. They were followed by Atkins, who, suitably attired as a sailor and looking remarkably nautical, sang with a wealth of cockney detail.

In Job and Luke, Howell discarded the drum to sing the praises of his chief's operative skill, which appeared to be much appreciated. McArdle, looking most attractive as an Irish colleen, also indulged in free criticism, and Stamm sang remarkably well for so late in the programme.

In Lazarus and Cornelius, where a real platform with footlights had been erected, Reid and Treble

again raised their voices, and Cantor complained of his hard life as an H.S. in the following words, sung to the tune of " We just couldn't say ' Good-bye ' " :—

We thought the round was over, that he was really through ;
I said I didn't need him, but he began anew,
And told a little story that everybody knew—
But he just wouldn't say " Good-bye."

The ward clerks and the dressers, they broke right down and cried,
And Sister started hinting for us to get outside,
But Chubby didn't notice, no matter how she tried,
And he just wouldn't say " Good-bye."

The clock was striking four o'clock, the patients said to me,
" If only Chubby would depart, then we could have some tea."
So we let him get well started upon a lump he found,
And when at last he'd finished and turned to look around,
The ward was simply empty, we'd left without a sound,
But we just didn't say " Good-bye."

In Lydia, Bolton sang the ever-popular " Daisy," and was followed by Crowther Smith and Atkins.

At last the " Niggers " reached Astley Cooper, where there were four songs, the proceedings being brought to a close by Massa Johnson, who once again told us how much he enjoyed sitting beside the seaside.

The choruses on the whole were good, and were sustained up to the end. Most of the " Niggers " remembered their words, and no one forgot the answer to his riddle. Scutham and Howell were apparently tireless with the drums and de Gruchy was indefatigable on the piano.

Hearty thanks are also due to Bishop and W. Lewis, who kept the " Niggers " to their programme, saw that they were up to time, and were suitably refreshed when the occasion demanded.

L.D.S., R.C.S. (England)

A Paper read before the Dental Society, Guy's Hospital, by Mr. Ching, on Tuesday, 25th October, 1932

(*Owing to the fact that Mr. Ching spoke from notes only, it is impossible to print a verbatim report of his address. The following account is, therefore, only a summary of the more important points.*)

IN an address on the L.D.S., R.C.S. (Eng.), Mr. Ching endeavoured to show that in his opinion the L.D.S. examination was inefficient, and then suggested alterations which he felt would make the examination more in keeping with modern requirements.

He started by saying that the main purpose of examinations should be to ensure that the competent pass and the incompetent fail. In order to make sure that as far as possible this shall be the case, it is essential that the luck element be reduced to a minimum.

The Royal College of Surgeons laid down a fixed syllabus for the course plus a set of regulations *re* attendance at lectures and classes. Failure to comply with the latter might mean that the student found his schedule refused, and he not allowed to sit for the appropriate examination. From this, one could only assume that the College took a serious view of the adequate training and testing of the student, and that any examination connected with this training is considered to be a very important matter. And so one would expect to find the same care and attention on the part of the College as to the manner in which they test the candidate's knowledge. One found, however, no such consistency.

As a typical example one might take the examinations in Anatomy and Physiology. According to the regulations laid down by the College, candidates must give 21 days' notice in writing of their intention to present themselves for the whole or for one section of this examination and at the same time forward certificates :—

(I) For Part III (*a*)—

Of having attended at a recognised Medical School :—

(*a*) Courses of instruction in Anatomy, including special demonstrations on prepared dissections during three terms.

(*b*) A course of dissections to include, if possible, the head and neck, during one term.

(*c*) Courses of instruction in Physiology, including Bio-Chemistry and Bio-Physics, during three terms.

(*d*) A course of instruction in Histology.

This was a full and comprehensive course of study (so comprehensive that in the case of Dental Anatomy there is no fixed syllabus), and the difficult task of instruction is conscientiously carried out by the hospital authorities. At the end of such a course one would expect to find an equally full and comprehensive test.

Instead, one found that for Anatomy and Physiology jointly there is one two-hour paper and a ten-minute *viva*. The candidate is expected to do three questions out of four in a paper divided into two sections each containing two questions,

i.e., two Anatomy and two Physiology. The ten-minute *viva*, always strictly adhered to, was seldom enough for a reasonable test of the candidate's knowledge. Under this system, good men were continually failing, and at the same time candidates who had done little work, but who had been lucky enough to spot the right question in a last few weeks' cram, often passed. In the *viva*, the paper done by the candidate was not in front of the examiner, and reference was rarely made to it. In view of all this, it was obvious that the marks in the hands of the examiners were totally misleading and in no way represented the true merits of the candidates.

The same remarks applied equally to the examinations in Metallurgy, Dental Anatomy and General Surgery. The short examination allowed far too large an element of luck. To make the examination fair and efficient there should be at least one three-hour paper each in Anatomy and Physiology, and a *viva* in each subject of no fixed duration. This would very largely reduce the luck element.

For the Mechanics examination, two years' study was required, during which, with the exception of regular standard holidays, a weekly attendance was necessary. At the end of this time comes the only examination in Mechanics which the candidate is required to do by the R.C.S. Therefore it is presumably the examination to decide whether the candidate is sufficiently competent to deal with the prosthetic side of a private practice, and as such its construction and brevity make it a complete farce.

The actual examination consists of a three-hour practical test of a very stereotyped nature, during which the candidate may be given one out of eleven tests. In three hours it is obviously impossible to form any real opinion of the competency of the candidate. A man with a good record over a two-years' course may fail miserably, and a man with a very bad record may, by a stroke of good fortune, pass.

At this point it is interesting to note that no account of the candidate's hospital record in Mechanics is taken by the examiners. During his two years' work the student makes many dentures for patients, most of which may be perfectly satisfactory; yet because for any reason the same student makes a mess of the particular job which he gets to do in a three-hour examination, he is failed without further consideration.

A great deal of time is wasted before the examination in doing tests of a stereotyped nature —one of which the student knows he will get in the Mechanics examination. Further, the College gives no paper in Mechanics, whereas the hospital for their third-year prize gives a paper in Mechanics and also a far more reasonable practical test.

The College insists that the candidate must have attended at least 75 per cent. of his lectures and practicals before being signed up. In adopting this attitude of insistence at lectures and classes instead of instituting a thorough examination of the candidate's ultimate knowledge, however acquired, the College is refusing to face its responsibilities, and is neatly shifting them on to the shoulders of the hospital authorities.

And so at length there comes the final examination. In the actual examination itself, no real attempt is made to find out whether the candidate is a competent dental surgeon or not. The examination takes the form of one two-hour paper, consisting of four questions, three of which are to be answered. These questions may be set on Dental Surgery (which includes Orthodontics, Dental Pathology, Dental Bacteriology and Dental Materia Medica.

There is one three-hour practical examination in which the candidate is usually required to do one filling—the choice of filling finally resting with the examiner, one ten-minute oral examination, and one ten-minute clinical in which to examine and report on two patients.

It is impossible to judge a man's clinical experience of two years in ten minutes, or to test orally a man's knowledge of Dental Surgery in the same amount of time; or to test a candidate's knowledge of Operative Dental Surgery by making him do one filling.

At least 95 per cent. of dental work is done in the surgery, and yet the only practical test one receives in this important branch of the work is to do one filling. Usually there are no extractions and no administration of a general anæsthetic.

Mr. Ching then suggested what, in his opinion, would be a more suitable examination. There should be at least two three-hour papers in Dental Surgery and one three-hour paper consisting of sections on Dental Bacteriology, Dental Pathology and Dental Materia Medica. Two oral examinations of unlimited duration, and two clinicals, also of unlimited duration. Two practical examinations to include extractions under general anæsthetics, and, if necessary, the administration of a general anæsthetic.

A confidential report *re* the candidate's record over the four years' course should be sent to the chairman of the examiners to be referred to in all border-line cases. Possibly this suggestion is open to abuse, but no more so than any other.

An examination conducted on these lines would be a full and comprehensive test of the candidate's

knowledge, as well as a fair chance for him to show what he can do—a chance he often certainly does not get under the present system.

These suggestions would not make matters harder for students. The period of study would not be increased, and the candidate, being assured of a fair and reasonable test, would be encouraged to work on broader lines. For instance, he might specialise on his pet subject, and, as well as learning something about everything, endeavour to learn everything about something.

Actually the L.D.S. final examination compares very unfavourably with other finals, *e.g.*, for an ordinary French B.A. Honours degree the examinations consist of about eleven three-hour papers, plus a *viva* of no fixed time.

If a student has worked well, he can face a comprehensive test with equanimity. Under the present regime this can never be, because the candidate knows very well that in the limited time of the examination it is all a matter of luck as to whether the few questions set are fortunate ones from his point of view. Unfair questions are bound to arise from time to time, and their influence is terribly felt under the present system. This influence would be reduced to a minimum in a really comprehensive examination.

For the dental examinations six examiners are appointed, and four sit on the Board at a time. They examine in Dental Metallurgy, Dental Mechanics, Dental Anatomy and Dental Surgery, which includes such subjects as Dental Pathology, Dental Bacteriology, Orthodontics and Dental Materia Medica. For four men to be experts on such a wide range of subjects would seem to be impossible, especially in view of the fact that they usually run a private practice and hold a Staff appointment at a hospital. Surely the most we can expect from these gentlemen is a sound working knowledge of all these subjects? Would it not make for greater efficiency if examiners were appointed to examine only in the subject or subjects in which they were experts? The new regulations were a very half-hearted attempt to improve matters. They dealt quite inadequately with the situation.

Mr. Ching put forward a plea for the necessity of doing everything possible to ensure that the L.D.S. should remain the best recognised dental qualification, a state of affairs only to be maintained if drastic and radical alterations were made in the conduct of the R.C.S. dental examinations.

Finally, Mr. Ching made a suggestion that dental examinations might find more sympathetic consideration if put in the hands of a College of Dental Surgeons, organised by gentlemen realising the importance and dignity of the science and practice of Dental Surgery.

The Nurses' Dance

THAT eagerly anticipated "occasion" of the hospital year, the Nurses' Dance, took place on Friday, 30th December, and was an unqualified success.

Last year's plan of using the Revelstoke Library and the Dining Hall simultaneously as ballrooms was adhered to, and provided that excellent element of choice so dear to the believer in personal freedom (and married men, with the exception of the Superintendent, were not in evidence).

Those who enjoy the elements of resiliency in the floor and privacy in the air chose the Revelstoke, gladly bearing with the Pictish tendencies of the band, who were aware that their reward was on a time and not a piecework basis. The rest found the ampler room and the chance of seeing almost every acquaintance provided by the Dining Hall an adequate compensation for the drummer, who let us know that we had not, after all, chosen the most soul-searing profession, and for the small portion of the floor which must surely be unevenly laid—so universal was the difficulty experienced by our partners in traversing it with equanimity.

Though still a programme dance in theory, the domination of paper and pencil was less in evidence than usual, and this waiving of Victorian tradition was undoubtedly a valuable innovation; where mutual acquaintance is so common the necessity for this survival is very questionable, and its relegation to the position of a scarcely functioning rudiment gave a happy touch of spontaneity. The partner of the programme in the role of liaison officer is, of course, Paul Jones, who made two much-acclaimed entries. The versatile gentleman allows acquaintances to be renewed in astonishing numbers, leaving one breathless—at least in part—in admiration.

Admirable also were the Sisters, who, dealing with the problems of commissariat in a wholly masterful fashion, allowed the familiar ward attitude of tireless surveillance to drop completely away—perhaps they, too, find it refreshing to be not for ever eagle-eyed.

As for our partners, they were charming, and if it did nothing but remind us of the essential femininity of the nursing staff the dance would have no small value. As one observer phrased it, "The nurses were more beautiful and the men more sober than one would have thought possible." A direct ratio where an inverse would have been expected must give food for thought, and on pondering the matter we must undoubtedly bestow on beauty the role of Prime Cause.

In passing, it may be mentioned that the invaders, unlike their predecessors of past years, "left not a wrack behind." The Matron is actually reported to be 2d. down to the local purveyors of ginger beer, owing to the misplaced zeal of a ward clerk (who shall be nameless) in upholding the prestige of his sex.

At the close of the evening Mr. Hall Smith announced to his incredulous hearers that the Matron had granted half-an-hour's extension of time. Let those who think that sentence amusing remember that within a similar period of time a meal was in progress in the Dining Hall as usual.

For we owe to the Matron not only gratitude for an exceedingly enjoyable evening, but also unqualified respect and admiration for the way such an affair as the Dance can be carried off without perceptible disturbance of hospital routine.

In a word, the end of the Christmas festivities resembled the finish of any self-respecting firework—it went with a bang!

Sport

Rugby

Guy's v. Coventry

ON Saturday, December 17th, Guy's visited Coventry and were defeated by 3 placed goals, 2 dropped goals and 2 tries (29 points) to a placed goal and 2 penalty goals (11 points).

Although beaten by such a wide margin of points, Guy's, who were without their captain, T. Morgan, put up a much closer fight than the scores suggest. Unfortunately, the Hospital lost the services of Lindsey soon after the commencement of the second half, and Clarke had to go off the field twice in the first half owing to injuries. In addition, Johnson strained a leg muscle and was limping badly towards the finish.

Coventry had the advantage of a strong wind during the first period, which enabled them to establish a commanding lead of 18 points at the interval.

Soon after the start a good movement between Wright, Lindsey and Giesen carried play to the home 25, but Coventry gradually drove the Hospital back, and after ten minutes' play Gilbert dropped a good goal from the 25 line.

For a time Guy's played up well, and, after Lindsey had broken up a Coventry attack, Wright emerged from a loose scrum and ran right through the centre. He was about to try and pass the full-back when Kaye came across from the wing and brought him down heavily. The Hospital pack were playing very well at this period, but for a time they were weakened as the result of Clarke receiving a hard knock, and he had to leave the field.

Walt nearly crossed the home line after Roberts, in fly-kicking, had deposited the ball in his hands. A little later Guy's attacked strongly, and were awarded a penalty for offside, but Hogbin had the bad luck to see the wind suddenly take the ball just outside the upright.

A brilliant piece of play by Gascoigne resulted in Coventry increasing their lead. He broke away on the blind side in the Hospital 25, feinted to go to the right, changed his direction, and then sent in Rowley for a try, which Gilbert converted. Immediately afterwards, and following a clever pick-up and run by Harriman, Walker gathered a loose ball and ran over between the posts, for Gilbert to add the goal points. A minute later Bonham dropped a fine goal from a considerable distance.

Near the interval, Hale-Munro, Darke and Johnson took the ball from the halfway line into the home 25 with a delightful piece of dribbling. Pitcher was penalised for offside, but again Hogbin's kick went just wide.

Within two minutes of the resumption Coventry scored again. The ball was flung about freely before it reached Hayward, who made a fine dash for the line and scored a try, which Gilbert converted with a long kick.

After Hogbin had come near with a penalty from mid-field, Bowles created a splendid opening for his threes, but hesitation let a good opportunity slip by. The ball was forced over the line, but Pitcher kicked it to touch before Johnson could touch down, but a minute or so afterwards Coventry were penalised for a scrum infringement, and Hogbin was successful with the kick.

The home forwards went down the field with a mighty rush and Lindsey, who went down to try and check it, was knocked out and had to be carried from the field.

Guy's suffered another reverse when Harriman sent in Gilbert for an unconverted try, but, in spite of this, the Hospital retaliated splendidly and had bad luck in not scoring on two occasions. They stuck to their task, and eventually their efforts were rewarded when A. R. Clarke ran over in the corner for a try, which Hogbin converted with a magnificent kick.

Near the end Wilkinson added a further try for Coventry, and Hogbin kicked another penalty goal for Guy's.

Team.—W. B. Clegg; G E Walker, J. E. Giesen, M. J. Lindsey, A. G. Johnson; C. G. Wright, V. H. Bowles; C. S. Darke, J. P. O'Shea, M. R. Kark, T. A. Hale-Munro, M. L. Walt, A. G. Heberlein, R. A. P. Hogbin, A. R. Clarke.

Guy's v. United Services (Portsmouth)

AT Portsmouth on Wednesday, December 21st, Guy's were easily beaten by the Services by 2 placed goals and 3 tries (19 points) to nil.

The day was perfect and the ground in ideal condition, and it was a great pity that both sides were short of many of their best players. The Hospital forwards were rather better than the opposing pack, but the Services backs were far superior to Guy's, who were compelled to play two forwards in the three-quarter line in order to complete their team.

R. S. Casement, the Services right centre, was in excellent form, and this was soon apparent when, after ten minutes' play, he cut through the centre and beat four Hospital defenders before sending in Norcock for a try, which Hargrove converted.

Directly afterwards Hogbin was only just short with a fine penalty kick taken from near mid-field, and for a time play settled down in the home half.

A dribble from their 25 by the Services' forwards ended in Hargraves charging down Weston's kick and kicking ahead from half-way he won a race to secure the touch-down for a try, which he also converted.

Hogbin again missed a long-range penalty kick, and a little later good passing between Webster, Hargrave and R. S. Casement ended in Hawkins scoring the Services' third try, but Hargrave missed the goal.

Guy's had more of the play in the second half, and Hogbin, Morgan and Robin were very conspicuous in the loose. A long run by Hogbin was nearly successful, but Guy's were held up on the line.

Walt was hurt and had to retire for a time, and gradually the Services obtained the ascendency, and Hawkins was brought down a yard from the line.

Hodder was given two chances to show his speed on the left wing, and he took full advantage on each occasion to score splendid tries in the corner.

Team.—F. H. Weston; W. G. Zorab, A. R. Clarke, E. C. Zorab, T. A. Hale-Munro; G. E. Walker, V. H. Bowles; T. Morgan, R. A. P. Hogbin, J. A. T. Rowlett, I. G. Robin, M. L. Walt, M. R. Kark, A. G. Heberlein, C. S. Darke.

Guy's v. Cheltenham

GUY'S returned to winning form at Honor Oak Park on Saturday, December 31st, when they gained a convincing victory over Cheltenham and were successful by a placed goal, a dropped goal, a penalty goal and 4 tries (24 points) to 2 tries (6 points).

The success was all the more merited as, owing to examinations, injuries and other causes, the Hospital had some difficulty in raising a representative back division, but the substitutes rose to the occasion in great style and acquitted themselves creditably.

Weston at full-back did very well, although at times he was rather inclined to do too much on his own instead of playing for safety. Hamilton, on the left wing, also came through his first match with the senior team with credit, and, with a little more experience, should be a candidate for this place in the future.

The pack were again superior to the opposing eight, but they lacked the services of O'Shea, their hooker, and were beaten in the set scrums. Hogbin in particular got through a lot of hard work, whilst Clarke and Darke were always on the alert for stray opportunities.

The weather was perfect, but the ground was on the heavy side as the result of the rain overnight. Guy's had the bright sun behind their backs during the first half and attacked from the kick-off. Within three minutes the visitors were penalised for offside, and Hogbin landed a good penalty goal. Almost immediately afterwards Walker broke through and sent out a clever pass to Ashdown, who actually crossed the line, but, unfortunately, he kicked the corner flag in crossing and the try was disallowed.

Guy's kept up the attack, and Hale-Munro sent back to Giesen, who steadied himself and dropped a perfect goal. Hamilton then ran across field

before sending Giesen through the centre, but his pass was intercepted and the visitors found touch near the Hospital 25.

A short punt ahead was nicely taken by Weston, but, instead of clearing, he tried to run across field in front of his posts, where he was dispossessed by the opposing forwards and Davies crossed for a try near the posts, which was not converted.

For a time the exchanges were even, but eventually Wright kicked ahead, won a race with the full-back and scored a try in the corner. Another fine run by Giesen put Guy's on the offensive again. The ball went loose, but Walt gathered and, although he was well supported, he tried to go through on his own, and lost the ball. Luckily, Clarke was on it in a flash, and he dashed over the line near the posts for a try, but Hogbin missed an easy kick at goal.

Guy's quickly increased their lead as the result of a clever movement between Bowles and Giesen. The former broke through, feinted to pass to Giesen, and carried on before actually passing to him. Giesen completed the movement by racing up to the full-back before sending in Bowles, who crossed for an unconverted try.

Guy's then had a narrow escape, and for a minute or two had to defend their line desperately. Cheltenham were now getting more of the ball, in spite of the fact that they took a man out of the pack and played five three-quarters.

Near the interval Bowles was again prominent when he stole away from the scrum and made his way through the centre, but he was badly supported and nothing came of the movement.

From the commencement of the second half Guy's set up a sustained attack. First Leeming intercepted and raced away to the visitors' 25 before he was brought down, then Giesen tried to drop another goal, and eventually Hogbin got clear and made a good run before sending in Walt for a try, from which Hogbin kicked a good goal.

Scarcely had the game been re-started when Walker picked up a loose ball and, showing exceptional speed, raced over for another try.

Cheltenham retaliated and, following a good movement on the right wing, Firth crossed and scored a try near the posts, but Irens failed to convert.

Guy's nearly added to their score when Wright slipped through the visitors' defence, but Morgan missed the pass with the line at his mercy.

Both sides appeared to be tiring, but near the end the visitors pressed hard and, luckily for Guy's, over-anxiousness cost Cheltenham a penalty when they might have scored.

Team—W. H. Weston; D. E. Ashdown, G. E. Walker, J. E. Giesen, H. A. Hamilton; C. G. Wright, V. H. Bowles; M. R. Kark, T. A. Hale-Munro, C. S. Darke, M. L. Walt, D. M. Leeming, T. Morgan (Capt.), R. A. P. Hogbin, A. R. Clarke.

Association

Guy's v. Bart.'s

THE conditions were ideal for football on Saturday, December 3rd, when Guy's received a visit form Bart.'s. After a very strongly contested game, Guy's eventually ran out winners by 2 goals to 1.

Unfortunately for the Hospital, Osborne, Marshall and Johnson were unable to turn out, but their deputies played soundly throughout.

Guy's lost the toss, and were set to face both wind and sun. Bart.'s started to attack and kept up pressure for some time. About midway through the first half Bart.'s opened the scoring through their inside right, who got clear away and left the goalkeeper no chance with his shot. Stung by this reverse Guy's attacked strongly, and about five minutes afterwards Groom made the scores level after some good work on the left wing.

For the remainder of the first half play was mostly midfield, with occasional rushes on both goals. From one of these rushes Stoneham saved magnificently when a forward shot from about five yards' range. Half-time, 1—1.

In the second half Guy's began to do more attacking and forced two or three corners in succession. From one of these a shot was made at goal, which Groom did well to deflect out of the goalkeeper's reach.

Bart.'s now started pressing again, but relied mainly on individual attempts which the backs and halves had little real difficulty in stopping. Just before the final whistle, however, they missed a golden opportunity to equal the scores.

Team.—F. J. R. Stoneham; R. Lawson, D. Priestley; R. L. V. Henderson, C. A. Boucher, F. Jackson; E. A. Beach, R. Harvey, W. A. Groom, G. C. Sprigins, J. C. Colbert.

Hockey

Guy's v. Royal Naval College

ON Wednesday, November 23rd, Guy's visited Greenwich and defeated the Royal Naval College by 2 goals to 1. A heavy shower of rain in the morning had made the surface of the ground very bad, and the ball had to be hit hard to make it travel. Both sides realised this, and the game was very open in the first half. Guy's

kept the ball moving about well, but were not so good at hitting the ball "first time" as their opponents. Guy's would certainly have scored in the first half if the forwards had not crowded one another in the circle.

At half-time there was no score, but Guy's went hard in the early part of the second half, and a combined forward rush ended in Dryland scoring. A few minutes later Guy's were awarded a short corner, from which Richmond scored, the ball going in off the goalkeeper's pads.

By this time parts of the ground were very muddy and ball control became very difficult. The Royal Naval College, however, used their right wing very effectively to make several dangerous attacks, from one of which they scored through their centre-forward.

Guy's were again pressing strongly when the whistle went, but no further score resulted.

Team.—A. E. Mayston; D. P. King, A. W. Turner; A. G. Archer, R. G. Richmond, H. B. Smith; J. W. Dryland, L. N. Trethowan, C. A. Clarke, J. B. Franklin, R. C. Hill.

Guy's v. Royal Military College

ON Wednesday, December 7th, Guy's visited Camberley and lost to the Royal Military College by 3 goals to 1. The ground was hard from the overnight frost, but, fortunately, it was beautifully level, and, as would be expected, the game was very fast throughout; in fact, there was a considerable amount of over-hitting, from which the ball could not be kept in play.

Before the game had been in progress a minute, Richmond was hit in the face by a rising ball, and was off until just before half-time. This prevented Guy's from settling down until the second half, but Archer filled the gap and played very well throughout the game.

In the first half the Royal Military College scored two very good goals through their inside-left. After the change-over, Guy's attacked far more, particularly with the right wing, and had several chances of scoring. Brown made some good saves when the home team broke away, but from close range they added a third goal.

Guy's attacked again, aided by good defensive work by Turner, and eventually, from a good centre by Rowe from the left wing, Hamilton deflected the ball into the net to score the only goal for Guy's.

Team.—H. V. Brown; T. E. Mitchell, A. W. Turner; R. G. Archer, A. G. Richmond, H. B. Smith; E. B. Rowe, W. H. Hamilton, L. N. Trethowan, J. W. Dryland.

Hospital Information, etc.

Pass List

CAMBRIDGE UNIVERSITY.
THIRD EXAMINATION IN MEDICAL AND SURGICAL DEGREES.

PART I.

Surgery, Midwifery and Gynæcology.

W. Lewis — I. G. Robin

PART II.

Physic, Pathology and Pharmacology.

A. Bowen Davies — G. W. Hall Smith
C. A. Clarke — J. Howell
F. J. Curtis — G. A. Miller
W. G. Gill — R. V. Payne

LONDON UNIVERSITY.
FIRST EXAMINATION FOR MEDICAL DEGREES

P. A. Chandler — J. R. Kilpatrick
N. C. Creighton — K. G. Pascall
A. G. Dabbs — A. A. Shein
P. M. Davies — R. A. Stenhouse
J. D. Ebsworth — C. W. Stewart
S. D. Hankey — I. E. J. Thomas
H. J. Holford — S. I. Williams
R. L. Kenyon

Appointment

Mr. William George Booth, M.D., D.P.H., has been appointed to the post of Medical Officer of Health for the county of Lincoln.

Papers by Guy's Men

R. D. Gillespie. Classification and nomenclature of mental disorders. *Pract.*, 1932, cxxix, 665.

G. B. Dowling. (1) ? Pityriasis lichenoides et varioliformis acuta—Case for diagnosis; (2) Dystrophy of skin—Case for diagnosis. *Proc. R.S.M.*, 1932, xxvi, 130.

R. Brooke. Traumatic decalcification of knee joint. *Proc. R.S.M.*, 1932, xxvi, 99.

A. H. Todd. Paraplegia associated with scoliosis. *Proc. R.S.M.*, 1932, xxvi, 100.

J. A. Ryle. Discussion on treatment of acute appendicitis. *Proc. R.S.M.*, 1932, xxvi, 181.

C. Worster Drought and F. Janvrin. Diagnosis of disseminated sclerosis by graphic registration and film tracks. *Lancet*, 1932, ii, 1384.

A. H. Douthwaite and H. A. Watney. Spontaneous acute myxœdema. *B.M.J.*, 1932, ii, 1142.

A. H. Douthwaite. Association of gastro-intestinal diseases with winter weather and with influenza. *Pract.*, 1933, cxxx, 15.

Change of Address

L. D. Pringle, M.R.C.S., L.R.C.P., c/o Director of Medical and Sanitary Services, Hong Kong, China.

H. G. Ryder, L.D.S., "Tiverton," Addington Road, Hayes, Kent. *Springpark* 1825.

R. Hale-White, M.D., 33, Devonshire Place, W.1. *Welbeck* 9328.

Eds. { E. S. / M. J. McA.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

IN this issue Mr. Layton tells us that there is no disease that he finds more exhilarating to treat or exciting to watch than influenza. It still remains essentially the disease for the pure clinician. Its very name shows that, as yet, it does not come into the realm of any exact bacteriology or pathology, that so far all efforts to pigeonhole it into its own neat little corner have failed, and that when called upon to deal with its ravages the clinician is left entirely to his own resources, to the fruits of his own observations—always with the humble realisation that at any moment it may spring a big advance or surprise upon him. This element of surprise, and the irritating and peculiar way it has of appearing in different guises, make it a fascinating study, all the more interesting because it remains so puzzling and mysterious an influence.

But, however exhilarating to treat or to watch, vivid memories of the epidemic we have had this year leave no tender feelings in the hearts of those who succumbed, except the sensation of glorious relief which hot blankets and ten grains of aspirin gave to the bursting head, the bulging eyes, and the body that seemed incapable of keeping itself decently warm.

There were many at Guy's who, thus afflicted, suffered a miserable day or two in the last few weeks, and no doubt they will read Mr. Layton's interesting article feeling grateful that this year's epidemic was on the whole a mild one, and that there were many unpleasant complications which they were spared. Though mild, it was fairly widespread, and it was among the Nurses that it seemed to spread most rapidly. Over 60 nurses were laid up, and the cases came in such rapid succession that Cornelius Ward was closed and turned into a special sick-room for them.

Of course, it was impossible to find out how things were going on behind that closed door; the mere notice "Private" was a sufficient bar to the inquisitive eye. We believe that they all made good patients, and that the lion lay down peacefully beside the lamb. With so many sick nurses some of the wards became very short-handed and dependent often on outside help, with the result that the Superintendent had to issue an edict that only urgent cases were to be taken in and no cases to be written for.

Luckily it seems now that the disease is on the wane, though we can never be certain that another wave of it may not descend on us again very shortly. The nervous among us may soon be persuaded to turn away from their gargles, their sprays, and their throat pastilles, and to give up their frequent and furtive visits to the Dispensary, knowing that there is now less and less chance of their tongue coming to look like that of a flaming macaw, which we are told is of such serious prognosis.

▭

To pass the London M.D. Examination is, as everyone knows, a fine achievement, and we congratulate most heartily Dr. E. T. Conybeare and Dr. F. H. Stevenson on their success in Medicine and Dr. C. K. Simpson on his success in Pathology. But it is quite impossible to express our great admiration for Dr. E. T. Conybeare, who won the Gold Medal in this examination.

▭

THE Annual Residents' Play will take place in the Physiological Theatre on Tuesday, February 7th, to Friday, February 10th, inclusive. The dress rehearsal will be on Monday, February 6th.

Applications for tickets should be made to Mr. C. E. R. Wood and Mr. W. P. Stamm. The final date for application is January 28th, after which no application for seats can be considered. Tickets will be allotted after this date.

It has been decided to record a selection of the tunes in the Play this year, and it is hoped that the enterprise of those responsible will be well supported. The records will be for sale at the usual prices.

WE have been asked to draw the attention of our readers to a new Rugby Football Club which has been formed, called the London University Vandals Club, for past and present members of the University. The new ground at Motspur Park will be the headquarters of the Club, and a very good fixture list has been arranged for next season. Anyone who is interested should communicate with the Honorary Secretary, John Scurr, Esq., 46, Hornsey Lane Gardens, N.6.

We have also been asked to say that the tickets for the International Match between England and Wales have been allotted to those who applied for them, and may be obtained from the Medical School Office.

THE Light Department's Annual Dance will be held at Bush House, Strand, W.C.2, on Wednesday, February 1st, from 9 p.m. to 1 a.m. Mrs. C. E. Iredell has kindly consented to act as hostess. The price of double tickets, which includes refreshments, is 12*s.* 6*d.*, and can be obtained from Miss Lidwidgery, Miss Singleton, Miss Robinson and Miss Saldanha.

The bar is fully licensed, and a private car park will be available.

WE have pleasure in reporting that the sale of Christmas Cards supplied gratuitously by Messrs. Ash & Co., Ltd., has reached the gratifying amount of £108 2*s.* 4*d.* This is to be handed to the Hospital funds, and we would heartily thank all those who have contributed to this result by their purchases. We are greatly indebted to Messrs. Ash for their kindness in supplying the cards.

Obituary

PROFESSOR DONALDSON

THE death of Professor Donaldson has deprived the Pathological Department of its head for the second time within little more than five years, and is a great blow to the Medical School and his numerous friends. Robert Donaldson, the son of Mr. James Donaldson, of Corstorphine, was born at Dalkeith in 1878, and was educated at the Royal High School and the University of Edinburgh, where he graduated in Arts in 1898 and in Medicine in 1904. Later he took the Diploma of F.R.C.S. (Ed.) and the Degree of Doctor of Medicine. He also took the D.T.M. and the D.P.H.

Early in his medical career Donaldson developed leanings towards pathology, studied in Germany, and on his return to Great Britain was appointed Demonstrator of Pathology in the University of Sheffield. He subsequently held a similar appointment at Bristol and then became pathologist and curator of the Pathological Museum at Reading, where he was appointed Consulting Bacteriologist to the Berkshire County Council. During the war he was in charge of the Reading War Hospitals Laboratory and did valuable work on cerebro-spinal and paratyphoid fever and the treatment of wounds, which formed the subject of several papers. In 1918 he was appointed Lecturer in Pathology and Forensic Medicine at St. George's Hospital, where he remained for ten years, and in 1928 he succeeded Adrian Stokes as the Sir William Dunn Professor of Pathology at Guy's.

In addition to articles on various pathological subjects Donaldson is the author of a text-book on Morbid Histology, published in 1923. An enlarged and revised edition of this book appeared in 1932, and its preparation occupied most of his spare time during the last two years of his life.

Donaldson's sojourn at Guy's was unfortunately so short that the period of transition and reconstruction which inevitably follows the appointment of a teacher from another school was scarcely over at the time of his death. He had, however, been with us long enough to earn a reputation as a sound and accurate teacher, although his lectures contained, perhaps, too much of meticulous detail to appeal to all his students, and his naturally reserved disposition made it difficult for him to come to equal terms with the more junior men. The senior men, his demonstrators, and those members of the Staff who came into intimate contact with him and were able to penetrate this reserve, could not fail to appreciate his soundness of judgment, his wide knowledge and his unfailing kindness of heart. These mourn the loss of a true friend and a most loyal colleague.

Donaldson was a true Scot. He was a keen student of Gaelic and of Scottish folk-lore and his knowledge of old Gaelic music was very extensive. His love of his native land used to draw him to the Highlands on long camping tours with his family in the summer holidays, and he was never tired of talking about these happy times when he returned South.

He married Annie, daughter of the late John Owen, of Blenau-Festiniog, and is survived by her and two daughters.

Influenza

A Clinical Lecture by T. B. Layton, Esq., D.S.O., M.S.

OF all diseases of which I know influenza is the most exhilarating and most exciting with which to deal. In my experience, malaria alone rivals it in the protean nature of its manifestations. It goes and it comes again in a guise different from its last. While it is with us the number of the slight cases, the severity of the few and the casualties among colleagues make all so busy that there is no time for that careful thought and correlation of symptoms which are necessary to the close study of disease.

There is no point connected with it on which our knowledge is certain; to everything I tell you there is an alternative view. In a single lecture it is impossible to put the *pros* and *cons* of many debatable points. To give you a consistent whole I must, therefore, speak dogmatically when I know that my statements are but personal opinions held possibly temporarily upon a balance of evidence that is incomplete.

Influenza is then, I believe, an acute infection of the upper respiratory tract, slight in itself, but which lowers the resistance of the body to other organisms, so that it may be serious and even terrible. It is probably a virus disease due to some ultra-microscopic living organism that can pass through a filter which will hold up anything large enough to be seen with such microscopes as have yet been made.

The great problem in influenza is to sort out the symptoms due to the primary disease from those due to the secondary organisms. We now know that the lung conditions, the ear lesions and the sinusitis are due to the latter, but of the other general and local symptoms how much or how little is due to influenza proper and how much to the development of other organisms over a large or small area of mucous membrane we cannot say.

Personally, I believe that pure influenza is a complaint slight in nature, limited to the upper respiratory tract, and with no more general symptoms than a feeling of being "out of sorts." I say this because each year I see, during the influenza period, a number of patients with a triad of local physical signs who make no complaint of general illness. Sometimes it is a student whom I have set before me to demonstrate the instrumental examination of the upper respiratory tract, sometimes a patient who has come after long delay for an opinion as to whether tonsils should be removed. Sometimes this triad is seen in one who complains of some slight ear symptom such as deafness or noises and on whose drumheads are slight signs that indicate an early otitis media.

Here is a note that I made in March, 1929, when I saw more and more serious influenza than in any year since the epidemic of 1918-19 :—

"The tongue is coated, but not furred, this coating is a white or light grey and spreads from side to side and from tip as far back as the tongue is seen by usual protrusion. The mucous membrane of the nose is intensely red, not quite dry, yet without the mucous secretion of an ordinary cold. Over the fauces and tonsils and soft palate the mucous membrane is lightly injected by a dilatation of the medium-sized vessels rather than by a capillary hyperæmia of the smallest ones, and in this area are shown small glistening spots which reflect the light like grains of wet sand. On careful examination, these are seen to be minute globules of mucus emerging from the opening of every gland. Over the posterior pharyngeal wall no distinctive changes can be seen, but, if any islands of lymphoid tissue remain, they are likely to be redder than is usual. Lastly, at the margin of the mucous membrane of the upper lip appears a white linear raising of the skin, which looks like a longitudinal urticarial wheal.

So characteristic have been these signs in the last few weeks that I have not hesitated to say the patients are suffering from influenza, and if they say they have had no such attack, still to diagnose it as a sub-clinical one."

With four years' further experience I see no reason to alter this clinical description, except to substitute the word "coarsely" for "intensely" in the description of the hyperæmia of the mucous membrane of the nose. As with the mouth, it is the middle-sized vessels, not the minute capillaries, that take the chief part in the dilatation. Nor would I, to-day, need the linear line before diagnosing influenza. The triad of appearances in nose, tongue and fauces occurs, I believe, only during influenza epidemics, though each may be seen separately at other times.

I suspect that I have now described the whole of influenza; there is, however, one other symptom that may be due to the primary disease and not to the secondary organisms—this is the "general ache." For those who have suffered from it no description is needed. Those who have not experienced it can hardly realise how distressing it may be. Every muscle, every joint, and every ligament in the body aches till the patient

feels he must move to some fresh position. Slowly he does so, to sink down on his other side in blessed relief. But for a few seconds only. The ache starts afresh, and soon the change of position must be repeated. I suspect that even this may be due to the secondary infection. I have had a patient recovering from influenza with an otitis media who had disease of the mastoid that we had failed to recognise. She was frequently getting a slight rise of temperature with "rheumatic" attacks characterised by such an ache. Finally she developed a septic infarct of her choroid, which led to the loss of her eye, and made us reconsider the ear condition. Disease of the mastoid was found that led down to the lateral sinus, from which invasion had evidently been arising with each pyrexial bout of acheing.

The pulmonary complications are due to the secondary organisms. They vary from a tracheitis characterised by a sharp pain shooting up the sternum on coughing to the terrible bronchiolitis that carried away so many in the great epidemic, and of which sporadic cases have been seen ever since. The severity of the illness in pulmonary cases varies directly with the number of tubes involved, and this progression of severity suggests that it is a direct spread down through the larynx from the upper respiratory.

I have had but slight experience of gastric or abdominal influenza, but I venture to suggest that here also it is the secondary organisms that are the cause of the symptoms, and that, as in the lungs, there is a direct spread by way of the œsophagus from the upper respiratory tract.

It is in the diverticula of the upper respiratory tract that an investigation of the secondary organisms can best be made. The mastoid antrum forms the blind end of a culture tube natural to their development. Here there is no doubt that it is these organisms that are causing the local lesion, though there are appearances in the drumhead only seen in influenza, which show that the virus modifies in some way their action.

We have, then, four groups of cases: influenza itself, influenza with complications in the lower respiratory tract, influenza with complications in the diverticula of the upper respiratory tract, and gastric abdominal influenza.

Let us consider them from the point of view of treatment. We must do this from the point of the community and of the individual. We have not only to consider how to get the affected well, but also how to prevent its spread to others. With each the important thing is not to engender fear, but to ally it when arisen. Thus influenza resembles cholera. If panic spreads, so will the disease, and when fear resides in the patient, so will his chances diminish. "Fear and be slain" is as true of health as of the adventurous life. Or, in the milder words of the Psalmist: "Thou shalt not be afraid for the pestilence that walketh in the darkness, not for the sickness that destroyeth in the noon-day." Remember that at some time fear will come upon you—in the darkness of the night as you lie and think of some friend dead in the prime of his manhood after three days' illness, when you are tired after having given your best for days to a group of bad cases and lost, perhaps, more than half, and you feel that nothing you have done has been an atom of use; and when it comes you must cast it off, or you will be of no use for helping others. This idea must dominate your preventive arrangements and the general treatment of your cases. Let us consider prevention first.

Isolation is quite useless. It has totally failed to stop the spread of other diseases of the upper respiratory such as scarlet fever or diphtheria, where the symptoms are relatively definite. It is no use to attempt it with a disease in which the symptoms are indefinite, especially if, as I believe, the disease itself without secondary infection is not severe enough to make many patients realise that they are ill.

Efficient ventilation is the most important factor. By this I do not mean keeping one window open a few inches day and night so that a cold knife of air impinges on some area of the room and hits someone, whether asleep or awake; nor do I mean keeping many windows open always so that the whole house becomes cold and everyone within it. I mean the efficient changing of the air a certain number of times a day while retaining the general warmth of the building. This can be done by establishing a through draught for short periods of time. Windows must be opened in the front and back and the intervening doors as well. Attention to this is often bad in places where it should be most efficient. A correspondent once wrote to *The Times* telling how he had walked down Harley Street and seen only two open windows in its whole length. I once did the same in a road occupied almost entirely by nursing homes. In one house only was there any sign of efficient ventilation. Each window was opened equally a certain distance that indicated thought and design. I went in to make inquiries about this house, but found it was the hostel for the girls of a great drapery shop.

The problem is no easy one, and as you may be asked advice about it at any time it may be well to consider it further. In the private house the majority of occupants leave in the morning for work or school, and those who remain are busy

moving about at their work. The windows and doors can, therefore, be opened as described. They can be shut by mid-day if desired, and, at any rate, they should be shut before sundown, so that the house may become warm before those return who have been out all day and probably tired, and may be starved with cold from the journey home. For such to sit down in a cold and dreary house may be a serious matter.

In a school or college the problem is somewhat different. The occupants remain in the building, but change rooms. These are the sleeping, the lesson and the meal rooms. Each may be ventilated while the other is used. A strict rule should be laid down that every student on leaving the bedroom must have opened the window and must leave the door into the passage wide open. This should give a free current of air into the passages and windows until the servants have finished doing the rooms. A more difficult problem is a large shop or office into which many persons are passing during the day, while the few who are there constantly are seated with little movement. A lady in charge of a number of girls under such circumstances asked my advice the other day. She put it to me that, in her opinion, it was as bad for those girls to sit and shiver getting colder as the day goes on as it was for them to sit in a poorly ventilated room. I told her that the important thing was to get the rooms well aired after use and the first thing in the morning and, in addition, to take the opportunity of the slack times of the day to get all the windows opened for a short time; that the cleaners should be instructed to open everything after the office had closed; that even if cleaners were not there in the morning, those who arrived first could open windows, and these could be shut again as everyone settled down to work. In all businesses there are ebb-tides. Sometimes at meal-times and sometimes between them only a few customers or clients are streaming in and out. Even if the periods are but five minutes or less, the air can be changed by concerted effort and those at work encouraged to move about for this short time. Remember that good clerical work cannot be done by people who are cold; I learnt that from my sergeant-clerks during the war. It is a thing many of our profession do not know, but the business man does. While he is willing to do all in reason for the health of his employees he needs efficiency and this is incompatible with cold rooms where clerical work is concerned.

Any one of you, as a *locum tenens*, may be sent at a moment's notice to a small hospital, or you may find yourself the substitute for some practitioner on whom the secretary and matron have long been used to rely for advice on all and sundry matters. The problem of ventilation is here again different. The rooms are occupied day and night; at no period can they be emptied. Personal attention is nearly always being given to one or other occupant, so that some part of the body is exposed to cold; and those who are up, being convalescent, are liable to be susceptible to it. I do not think the matter should be left entirely to the discretion of ward sisters. Among the numerous hospitals to which I have been attached in the last 20 years there have been wards in which the smell of fried fish or human beings has often been obvious, and others through which the wind has blown in winter time to such an extent that blue convalescents have sat and shivered at the fireside and the nurses have only been warm by being kept constantly moving.

Even in a hospital, however, there is a time when nothing is being done to anyone, and all can snuggle beneath the bed-clothes. It is when the night nurse has finished and the day nurse not yet come on duty. I would advise you to give instructions that the night nurse is to open every window efficiently a quarter of an hour before she goes off duty. The day nurse can then shut these again before she starts to arouse the patients, whether for breakfast or for washing. There is a second time in the day when this can be done; it is after dinner, when bed-pans have been taken around and the patients are settled down for the afternoon rest. I believe this opening of *every* window for a short time does far more to ventilate the ward than the constant opening of one or two windows, which should be considered ancillary to it.

I doubt whether gargling, mouth washes, and the saturation of the handkerchief with eucalyptus have much effect in preventing your catching influenza; but I should never throw cold water upon any suggestion as to their use. I have known a panic start among the personnel of a hospital. Such can only be stopped by all feeling that everything possible is being done to prevent their succumbing while they attend to the sick. If a gargling parade helps to give this confidence, it should be employed. If eucalyptus enables a single individual to step fearlessly into tube or train he should be encouraged to use it.

And now as to preventive vaccine. If influenza is a virus disease no vaccine that we have at present will prevent it; but vaccines against the secondary organisms must be carefully considered. In the epidemic of 1918 the Ministry of Health supplied such a vaccine, and I know practitioners who had great faith in it and think it a mistake that the supply was discontinued although such

statistics as were available did not prove its value. I have had no experience of it myself as I was then in Egypt where we did not have it. We are, however, ignorant as to why influenza arises. There is evidence to suggest that towards winter the flora of the upper respiratory tract of man increases in number even before any epidemic arises. It may be that this increase is the predisposing factor in the onset of the influenza and if this increase can be prevented we may be able to stop this onset. Where our ignorance is so profound and the consequences so serious any reasonable precautions should be considered.

My own memory of influenza goes back to the Lenten term of 1892 in a private school at Eastbourne. The head master pinned his faith in oranges as a preventive and his wife in ammoniated tincture of quinine. And so we fell in after breakfast and filed past her until she had administered to each a teaspoonful of this in water. And some half a dozen times a day he would come into our schoolroom with a big bag of oranges and throw one to each of us. Nor did he allow our lessons to interfere with our health. On every fine morning while the epidemic lasted he turned us out and sent us the whole length of the parade and back, a distance of some four miles. And if to-day you become the medical officer to a school of small boys I do not think you could do better than advise what was done by this schoolmaster and his wife 40 years ago.

It is time to turn to the sick person. In every case the first and most important thing is to decide whether he or she is to lay up or may carry on. Do not allow yourself to become bound to any rule that everyone must go to bed. Some can carry on with safety, some must even at a risk. It is better for them to do so with your consent and under your guidance than in opposition to your advice. Never be afraid to take the responsibility of approval for fear of your reputation. Let me repeat that some are so slightly ill they do not know they have influenza; others again know they are ill, but will not consult a doctor at all. There is a still larger group who will seek your advice if they know you will let them carry on if this can reasonably be allowed. They are then the more likely to take your advice if they must lay up. Then, again, remember that physical rest is valueless without mental rest. It is much better to let a person remain at work with peace of mind than to compel him to remain at home in a state of anxiety. There are three groups of patients where decision on this head is particularly difficult—the underling who fears a loss of job, the head of a business who feels his presence necessary, and the mother of a family. But, before discussing these further, let us consider the treatment of the patient for whom we have decided that he must lay up.

First there is the routine treatment common to every acute infection of the upper respiratory tract. This consists of three things. To remain in a warm even temperature in a well-ventilated room, the brisk purge, and lots of fluid. With regard to the room, it will not always be necessary for the patient to stay in bed; in a severe case, yes, but in an intermediate one an armchair in front of the fire in a sitting-room may be so much more cheering than a bedroom that it will suit better. In other houses the bedroom is cold and not easily warmed, or the financial position does not allow of the expense. In such a household the warmest room is likely to be the kitchen, and the patient is better attended to there as well as warmer. I do not advise so active a dose of opening medicine in influenza as in other acute inflammations of the throat. It is a case not so much for a No. 9 as for a No. 13, although a dose of castor oil may be advisable. I should say that the more heavy the fur on the tongue the more thorough should be the alimentary clearance. In all stages of the disease large quantities of fluid is the best line of treatment. It matters not what it is not whether it is hot or cold so long as the patient takes it. In the simple case we are now discussing five pints in the day will suffice, though with the severe complications to which we must shortly come much larger quantities are needed.

Next we come to the question of the antipyretic medicine. Personally I am absolutely against it. Many give appreciable doses of a salicylic preparation every four or six hours for some 48 hours. I am confident that when this is done the convalescent period is lengthened. It takes longer to get people back to full active life than when the disease is allowed to run its course. I believe, with some general practitioners, that late suppurative complications are more likely to occur after it, and the exhibition of salicylates in this way prevents the use of aspirin as an occasional drug to relieve the ache. If any antipyretic is needed I would suggest ammonium acetate (*e.g.*, mist. ammon. acet. G.H.P. 1 oz. every 4 hours for 24 hours) as being less "lowering" or a small dose of quinine. This is an old drug now forgotten, but it was the stand-by of the practitioner in Yorkshire to whom I was assistant 25 years ago, and I believe it is of value. The dose must not be large, not more than 2 grs. every six hours. In a severe case a large dose will do harm. I am confident that in Cairo in 1918 we deprived some of a slight chance of recovery by giving large doses

of quinine (20 grs. intramuscularly or 10 grs. intravenously) on the assumption that they had malaria, or when they had both diseases.

The next thing to do is to relieve any ache or pain and to induce sleep. The two problems are usually the same. When the ache is relieved the patient will fall into a quiet sleep and awaken much refreshed, without any sleeping draught. For it there is nothing to compare with aspirin, and I advise a small dose unmixed with phenacetin, caffeine or other drug. Five grains will usually do all that is needed, and when it does not 10 grains will probably fail also. When a small dose such as this is used, up to four may be given in the day without producing bad effects, but if the patient can do with two doses in the 24 hours it is better.

The headache is a different thing. I feel sure that this is due to occlusion of the openings of one or more of the nasal air sinuses—analogous to the so-called vacuum frontal headache described by Sluder. For this the best thing is Glegg's treatment. Dr. Poulton introduced this to us as a preventive of a common cold or to cut one short. I have found it far more valuable in clearing up remaining nasal symptoms after the attack of a common cold or influenza and in relieving the headache during them. It is more likely to be efficacious than any drug taken by the mouth.

In the ordinary attack of influenza that we are now considering there is nothing much to be said about food. Let the patient have what he fancies; do not try to keep him on a "light" diet. On the other hand, do not insist upon a full meat diet, and if he is off his food for 48 hours do not be anxious if he is doing well otherwise. Lastly, whatever the diet do not allow his stomach to become overloaded by an excess of nursing enthusiasm on the part of an anxious relative.

There remains the question of alcohol. In the treatment of influenza it should be considered at every stage. There is but one-contra-indication to it—the person who thinks it wrong to take it under any circumstances. The mental unrest to such a person on whom it is forced may well outweigh any therapeutic value it may have. In the ordinary type of case that we are now considering it is not necessary, and had better be kept for the convalescent period, but it should not be withheld from anyone who is in the habit of taking it with meals.

We must now return to the individual who wants to continue at work during the attack, and see how we can apply this line of treatment to his case. It is largely a question of enabling him to carry on until the next week-end. Let it be clearly understood that if it were feasible a day in bed would probably be the best thing for any patient, however slight the attack. The triad of objective symptoms that I have described to you may entirely disappear within that time. This does not mean that the patient has not had influenza. We have no knowledge as to how long uncomplicated influenza lasts. I suspect that it may be all over in 24 hours under favourable circumstances. However, it is impossible to keep everyone in bed for 24 hours who have these symptoms only. We must try to decide what are the cases that must lay up. There are many people with influenza who do not get a rise of temperature. I believe, however, that there are but few who do not get some increase in the rapidity of the pulse, and I should lay more stress upon the latter than the former. Even with a temperature of 100° F. I have kept a young man at work while watching him carefully, but I should feel a great responsibility in doing so to one with a pulse consistently over 100. The general appearance of the individual must be correlated with these symptoms, and the suspicion of spread to the lungs and ears also brought into account. There is the patient who feels a bit deaf, with some noises or dizziness, and dilated blood-vessels in the drumhead. Even when a little pain in added I do not insist that he must lay up, so long as he realises he must do so at once if these symptoms progress. And it is the same with the aphonia and hoarseness of laryngitis. If I am right that the lung conditions are due to a direct spread downwards these symptoms mean that this spread is occurring. It is, however, quite impracticable to knock everyone off duty who is a little hoarse, but if, in addition, there is the characteristic pain on coughing due to the tracheitis I think it is time to insist upon the patient staying at home. It is hardly necessary to add that any suspicion of blueness of the lips indicates not only the same, but also that he must take to his bed.

But by far the most useful guide to this decision is the condition of the tongue. We may say at once if there is fur on the tongue, as distinct from the grey slimy coating that the secondary organisms have come into play. I do not think that this necessarily means the patient must lay up, but if this fur begins to get dry anxiety will begin to arise. In the next stage the dry fur becomes brown. Last stage of all is what my chief, Major William Ritchie (now Professor of Clinical Medicine at Edinburgh), called the Parrot's Tongue. In this the tongue is brown, dry and cracked, it is narrowed from side to side as though one had pinched it laterally and pushed the muscles upwards so that the contour is highly convex from back to front with a thin tip like

the tongue of a flaming macaw. I look upon this as a matter of as serious prognosis as the livid blue lips which all in 1918 learnt to dread and of which Dr. Herbert French has retained a record in the coloured picture of the condition that he had made at the time. One word of warning. Beware the case where there has been a slight attack with recovery and then a recrudescence of symptoms, still slight, but more severe than before, and with some suggestion of a complication. These must always be considered in a more serious light than those in the primary stage.

The treatment of the case that stays at duty is to get the patient to conserve his energy, mental and physical, in every way. There must be no rush and hurry, so that he goes without an overcoat or in old shoes that leak. No going without the mid-day meal. In fact, he or she should have a good lunch, an underdone steak replacing the poached eggs, and let them have alcohol with it. The underling may have a glass of oatmeal stout, the head of the business his half-bottle of burgundy. Many refrain from alcohol mid-day for fear of its making them sleepy. If they are fighting the 'flu, let them be a bit sleepy. The boss will find himself less essential, the other fear "the push" a little less. Each may settle down to half an hour's nap and be the better for it. And when the office closes each must go straight home and stay there, have a good evening meal and go early to bed. With such cases let the opening medicine be but a laxative. Do not, under any circumstances, give routine salicylates, and interdict more than one self-administered aspirin per diem. The large quantities of fluids must again be given of any or every sort taken frequently in small quantities so that the total becomes considerable. In this way you will carry many a patient over to the week-end, which should, if possible, begin on Friday evening, from when the patient should be absolutely quiet till work starts again on Monday—no pictures or games for the young, no theatres or golf for the elderly.

Of all the complications the pulmonary ones are the most important because, whatever the organism, they are the most deadly. The condition to be feared is a bronchiolitis, an inflammation of the smaller tubes, characterised by a vascular engorgement and a profuse secretion which together causes a stasis of the blood in the lung and of the air in and out of the alveoli. When a person suffering from influenza looks ill with a heavily furred tongue and has evidence of bronchitis the condition should be feared. The treatment is to secure rest, to feed him, and to give alcohol from the first. The fight will be short and sharp; within 48 hours he will be dead or you will have hopes of his recovery. Rest must be absolute in the upright position. Once having been over the lungs you must not disturb the patient again to re-examine them, the nurse must not be allowed to wash him, and the purgative should be omitted to avoid too much use of the bed-pan. He should be propped up with a pillow under the thighs tied to the head of the bed, so that the lower part of the chest is upright and the patient is not lying on it. The head should rest on pillows in such a way that there is no need to move it to give food.

While he can take solid food, very lightly cooked beef is excellent, but anything may be given that does not upset the stomach. He must be fed by the nurse if the condition is at all severe. When so ill that he is dependent upon fluids there is nothing better than the Clinicals' meat juice, but, failing that, soups, chicken or beef tea are good, even though they contain little or no caloric value. This must be got by means of milk and sugar, with such starchy materials as can be incorporated with the feed while it remains pourable. Sugar is most valuable because it can be used by the muscles at once without digestion and is, therefore, available forthwith to maintain the action of the heart. Alcohol should be given from the beginning in a form that is acceptable to the patient, and it should be given æsthetically. Champagne in a medicine glass or beer from a feeder loses its value, though the feeder may be necessary if the head is not to be moved.

As to drugs I advise you to give none. If you do, two courses may be considered. One is to give a stimulating expectorant in the early stage. Against this are the facts that it disturbs rest and the secretion will be profuse without it. The other course is to dry up the secretion with belladonna. I do not think this should be done unless it is excessive. Secretion is Nature's method of dealing with the lesion, and we must not check it unless its mere presence is doing harm. If it is so profuse that it is obstructing the air entry atropine may be used, but we are always in doubt as to whether it is the secretion or the swelling of the mucous membrane that is causing the obstruction. I am absolutely opposed to intravenous or intramuscular injections of mercurochrome, silver, etc. We have no knowledge that they do any good; we are certain that at times they do harm. The risk of the latter in this condition is too great to warrant its being taken. In 1918 we tried intravenous injections of eusol. Some cases recovered, some did not. It had no effect, except that it disturbed the patient.

To be sure of the organism that is causing the trouble a lung puncture is needed. The disturbance that this entails is not warranted, as the patient will be dead or better by the time the report on the organism is received. For this reason sera should not be used. It but disturbs the patient to give an antistreptococcal serum when the organism causing the complication is Pfeiffer's bacillus or a pneumococcus. When heart failure threatens there may be a use for drugs, but I am not going to speak to you on that—it is a matter of general medicine and is not special to influenza.

Two lines of treatment for infective conditions have come into being since 1918 : huge quantities of fluid and transfusion. I advise you to go slowly with regard to the former ; it may be of value, but one feels the lungs might become water-logged, and the compulsion needed to get in the fluid might be distressing to the patient. Transfusion, I think, wants carefully trying out in a series of cases, if ever again we get any number, but it might have to be preceded by a bleeding. We may sum up the treatment of these cases by saying that no specific treatment is known, and that we must pin our faith upon careful nursing, which entails absolute rest, physical and mental, with feeding the patient.

The aural complications of influenza may be as deadly as the pulmonary ones if the secondary organism is the hæmolytic streptococcus. It is not a mechanical effect of the results of inflammation that causes the danger, but the invasiveness of the organism, which may lead to meningitis or more often results in a septicæmia. Influenza seems to increase the invasive properties of this streptococcus while limiting the pyogenic ones. It is easy to tell whether the infection has spread to the middle ear and most difficult to tell whether it has spread further. There are no physical signs on which to rely such as those of bronchitis in the lung. It is a question of assessing the general condition of the patient and weighing the likelihood of this being explained by the respiratory infection or whether it must be due to an osteomyelitis of the mastoid bone. Errors of judgment are, therefore, very likely to occur, and one's whole balance may be thrown out by a series of bad cases. I had such a series in the first three months of 1929.

In November of that year, on a Thursday, four cases turned up at my Out-Patients with ear symptoms that I felt confident were influenzal. I admitted all of them with the intention of opening their mastoids next day. Those working under me could not understand why I was so persistent in my determination to do so. After long discussion I agreed that my chief clinical assistant, Mr. Mill—now assistant surgeon at St. Thomas's—should incise their drumheads that night on condition that I should be at liberty to operate on the mastoid next day if I still thought it imperative and that he should come up on the Saturday and Sunday and see any in which I did not do so. In the end two came to operation and two did not. I am confident that it was not the myringotomy that saved these two, but want of judgment on my part that demanded the major operation. Such may be the explanation of stories one hears of two dozen mastoid operations being done in a boarding school in a few weeks. I have never had the opportunity of studying the disease under these circumstances, but can hardly believe all were necessary. I can, however, sympathise with the awful anxiety of head master, the practitioner and aural surgeon faced with such a problem.

Once the diagnosis is made operation should not be delayed. The operation does not save the patient's life ; it puts him in such a position that the doctor and nurse can save it. Great quantities of fluid is the most important treatment. This demands great exertions on the part of the nurses, but once they realise its importance they do it. I used to demand a gallon of fluid a day. I now demand 12 pints and am the better pleased if the patient takes more. This is for an adult. Alcohol is still of value. When the organism is known serum may be used, and therefore in every case a cultivation of the bone should be made.

Acute nasal sinusitis is not common, and when it occurs is seldom deadly except as the result of surgical interference. No operation should be done unless the inflammation escapes from the nose into the orbit, and then it is best to incise the swelling when it shows signs of pointing and do no more in the acute stage. Even washing out the antrum may be a danger. Heat is best and can be applied in the form of radiant heat from electric light bulbs.

My experience of gastric influenza was so mixed up with dysentery that it would not help you to recount it. I can but give you two guidances. If the dose of opening medicine is given at all it must be but the mildest laxative, and the condition in one in which skill in the use of opium will be invaluable. It is wonderful what effects can be got with this drug by one who knows how to use it.

We have now completed our consideration of the acute attack and must turn to the management of the convalescence. This is in two stages : that from the time the patient gets out of bed till he returns to work, and convalescence after return to work. Do not forget this second one. However long the first stage of convalescence, even if

the patient has returned to a state in which violent or prolonged exercise is being taken, he will not feel fit when he returns to work. The first principle in the management of convalescence is to think ahead. The rate at which the patient may be got on to-day and to-morrow depends chiefly upon what he must do in a fortnight's time. The length of convalescence will depend primarily upon the severity of the attack, but also upon the anxiety of the patient with regard to his work. Often the person who has struggled hardest to remain at work will be willing to submit to a prolonged convalescence. But the person who worries is better back at work especially if he be one who can go quietly for a bit. When work is such that the individual must go all out while at it a longer period is needed. I never allow nurses to return to duty for two months after a mastoid operation, and I have kept one off for four. In the lesser attacks, however, I am not in favour of the first stage of convalescence being unduly prolonged and the sooner the patient is out of the sick-room the better. At the best of times it is a dull place, even if it is one's own bedroom; when it is a room in a nursing home or the sick-room of an institution it may have a profound influence upon the mentality of the patient, and the sooner he or she is sent to his or her own fireside, however humble, the better.

Food, rest, and sleep are the cardinal factors. The amount that the healthy young adult convalescent from influenza will eat is stupendous. Let him. When he has done so he will go to sleep, awaken, run about for a short time, and be ready for more. He will manage his own convalescence. In middle age, however, or in the young who previously were not robust loss of appetite may seriously impair the process of recovery. Small quantities of food given frequently, all the art of the cook to make it tasty, and daintiness of service are the important things. Even then the appetite may be wanting and the use of alcohol again comes in. A small amount of moderate strength taken a quarter to half an hour before the meal will restore the appetite better than anything.

Rest and sleep are not the same thing. Rest will do much to restore the body without sleep. The convalescent should lie down after the mid-day meal and spend ten hours in bed. Many people seem to be ashamed of going to bed at 9 p.m.; it is a good thing to do when very tired or after an illness To obtain sleep, hot bread and milk, or hot treacle posset, or any other hot drink such as a syrup or a spirit with boiling water sipped as the individual gets into bed is far better than any drug. It is important that, once asleep, the convalescent should not be woken again; if this happens a sleepless night is likely to ensue. The telephone and a restless bed-mate should be removed to another room. If a draught is necessary I think opium in some form is the best unless a single tablet of aspirin will effect it. The barbiturates if possible should be avoided. They are "lowering" even when efficient.

After return to work these principles of convalescence must be combined with these for enabling the patient to carry on when first ill. He must for a time conserve his energy, take a good meal mid-day, come straight home of an evening, have his little dose of alcohol, eat a good dinner, and go to bed early; but not for too long. It is easy for anyone, and especially in middle age, to come so to enjoy convalescence that he is in danger of degenerating into a *malade imaginaire*. Sometimes a sudden emergency of work will arise and the patient find when it is over that he is well; or the convalescent must set to and nurse someone else who is stricken; but at other times the practitioner must see to it that the convalescence is ended. A dance, a dinner or a theatre may secure the desired effect. Failing these, a heart-to-heart talk between doctor and patient is necessary.

I do not propose to go into the mental and nervous complications following influenza. I have not the experience to tell you its relation to encephalitis lethargica or whether there is some other encephalitis due to the virus. There is, however, one complication which none of us must neglect. That is, "the hump." A profound depression of spirits, which may even lead to suicide, not infrequently follows this disease. It must always be borne in mind. That is one of the reasons why I do not like salicylates in the early stage or the barbiturates in the late, why I lay such stress on the prevention of fear, on the freedom from worry, on the use of alcohol, on the feeding and the rest in the convalescent person. If there are signs of its becoming serious it is a matter of nice judgment whether the convalescence should be cut short or prolonged. The decision must bear some relation to the financial position of the patient. To one to whom money is of no anxiety a trip round the world may be the best. With my patients even a week at Clacton-on-Sea may be worse than a return to duty.

Headache sometimes remains for a considerable period. It may be evidence of a chronic nasal sinusitis. Personally, I now believe this is far rarer after influenza than I used to think and to teach. Usually the headache is due to a slight

swelling of the mucous membrane which blocks the opening of some sinus and yields to Glegg's treatment. This may act as a charm. It would seem, however, that influenza will hang about in some part of the body for long periods. In my own case, after an attack of influenza in September 1918 for which I was only off duty for 48 hours pyrexial attacks associated with the ache lasted long after my return to civil life and well into 1920. The same thing may happen with the headaches and a cough. I have seen patients with a winter cough that has recurred for several years after influenza. I do not think that any of these things is a matter of anxiety; they disturb the individual for a few hours or a few days and finally pass away. It is, however, different with an irregularity of the pulse. I have neither the knowledge nor the experience to guide you with this, but would advise you to get further help before deciding to send a patient back to work if this persist into convalescence after the patient is otherwise well.

What I have told you consists of theory, clinical observation, and treatment. Let me repeat that of the theory none is certain knowledge. You will meet someone who disagrees with each point that I have raised. They will tell you I am quite wrong. I may be but remember there is just as much chance that they are. Develop the agnostic frame of mind on the whole subject until the pathologists and epidemiologists have done a lot more work upon this disease. In the meantime we clinicians can but try accurately to observe and accurately to describe what we observe. Let me put before you some of the problems that have to be decided.

First, is it an infection? I must admit that I cannot conceive of it as anything else, but we must not be limited by our conceptions, and as yet we cannot say there is absolute proof. I have wondered at times whether influenza is the state of lowered resistance to bacterial invasion of the upper respiratory tract, and whether there is some factors in disease as unthinkable to our minds as was that of accessory food factors before the time of Nelson or even of Gowland Hopkins.

Secondly, if it is an infection, is it due to a virus? There are still some who hold that Pfeiffer's bacillus (B. influenzæ) is the causative organism and bears the same relation to other organisms as I have described the virus as holding to them. I do not believe this hypothesis will fit into a clinical study of the disease.

Thirdly, if a virus disease, how much is due to the virus? I have described certain symptoms in the upper respiratory tract on which I would diagnose influenza. But it is possible, nay, probable, that even these symptoms are due to the secondary organisms, and, if so, there may be no symptoms of influenza with the exception of those indicating an affection of the central nervous system. We have another naso-pharyngeal virus disease where this occurs in poliomyelitis.

Perhaps, however, I am exaggerating the effect of the secondary organisms. If this is so we have to consider some other reason for the protean nature of the disease and ask ourselves whether it is a disease or a group of diseases. Is it due to a series of infective agents closely allied on to another as the enteric group of diseases are due to allied organisms? There are active minds following up this line of thought to-day. We must allow that the disease has some influence on other organisms in the body, but does it have it on all? and does it influence or is it influenced by other virus diseases? Take herpes facialis, for instance. Does the presence of this make influenza more or less severe? I look upon its presence as a good sign, and suggest it may diminish the severity. I also suspect that anyone who has recently had an attack of herpes facialis may be protected from influenza for a time. But I need to see much more influenza before I can be sure of this.

Take again measles, which is so extraordinarily like it that, except for the rash, it might be called the influenza of childhood. I do not think that either measles or influenza is a serious complication of the other in contradistinction to scarlet fever which is, I believe, one of the most serious complications of influenza. And while speaking of childhood, does influenza occur in children? and, if so, is it severe? I do not see it with any frequency or severity, and yet so much of my time is given to the care of children that I feel confident I should have done so were it at all common or severe. This raises another problem. As a student I saw but little influenza, and was taught that we did not have it in hospital because it was a disease of the well-to-do. So far as adults are concerned this is not so to-day but is it so with children? My experience is almost entirely limited to the children of those who are not well-to-do. And, if so, may there be any relation between measles and influenza? Does measles protect for a time against the other in the same way as vaccinia protects for a time against variola major and minor? But perhaps I am allowing my imagination to run away with you. I have said enough to show you how much there is for you to think about.

Even if we knew the answer to all these questions we should be far from understanding the onset

of the disease. It goes and it comes again. It disappeared in the middle of the last century, and when it returned in 1889, Dr. Samuel Wilks was the only person at Guy's who had ever seen a case. My memories of 1892 were of the last phase of that epidemic, after which it was always with us in a mild type till the great pandemic which no one who was in it can forget. And for the last 14 years it has always been with us in a less serious form, but more so than between 1892 and 1918. Even when present it has a seasonable variation and varies in different winters. A practitioner in Whitechapel some years ago told me it would all disappear if at about Christmas-time we had a week of bright sunshine. I believe he is right. You may have heard it said: "It is the cold grey weather that makes us Englishmen." I believe it is the cold grey weather that gives us 'flu. Even in a single year local variations will occur. An institution may lose two or more members of its staff from the lung condition which in that year is absent from the epidemic as a whole. Another year another institution may have four or five nurses develop mastoiditis and not a single case of this complication happen at other institutions where the conditions of work and life appear comparable; and this may be the explanation of greater numbers of cases of mastoiditis in schools.

A bacteriological epidemic each year precedes the clinical one, but whether this is the first evidence of the lowering of the resistance of the community from a sub-clinical influenza or whether the increase of organisms in the upper respiratory tract is the precursor of influenza which then lowers the resistance to these organisms we do not know. Nor are we certain that there is not some other host amongst our domestic animals or elsewhere which may acquire the infection and hand it back to us at a later date.

With regard to clinical observation, do not go and ask others if I am right; observe for yourselves. I lay no claim to infallibility: I have probably missed much, and may have seen some things wrong. And as to treatment, I can only say that I believe these are the right lines on which to work. Others will have different methods; try them on different patients, but do not mix the treatments in the same case. One line of treatment may or may not be better than another, but it is certain that either will be better than to waver between the two

The Debating Societies

A HAPPY innovation was made on January 9th, when the Guy's Debating Society met the Nurses' Debating Society to discuss the motion that "This House is in Favour of Total and World-Wide Disarmament."

The meeting was held in Revelstoke Hall, which was well filled by a pretty equal representation of both Societies, amongst those present being several members of the Staff, the Matron and a number of Sisters.

The Chair was taken by Dr. Ryle, who, in introducing the speakers, congratulated the senior society on holding a Ladies' Night, and recalled how, some 30 years ago, as a ward clerk he had risen with shaking knees and moist hands to voice his opinions on this same subject of Disarmament.

Nurse REYNOLDS rose to propose the motion, and began by painting a lurid picture of a future war in which the army and navy would count for nothing. It would be fought, as Mr. Baldwin has recently stated, entirely by the rival air forces. The weapons would be poison gas and chemical bombs, and the outcome could only be the annihilation of the whole of Europe, and possibly even America as well. The only hope of avoiding such a catastrophe, she believed, was by a simultaneous and gradual disarmament of all European nations on such a basis as that suggested by the League of Nations, until the standing armies were reduced to a mere police force. Money at present being wasted in preparations for war and the practice firing of high explosives would finance fresh industries for the absorption of unemployment caused by such reduction of armaments. The League of Nations, she maintained, was a practical as well as an idealistic body, and costs Britain every year a sum no larger than the stationery bill of the Navy. The speaker went on to prove how vested interests of private firms of armament makers frequently stimulate international friction, citing as a case in point recent interference by such firms, through Paris newspapers, in the dispute between China and Japan. Why should Britain disarm? Because she promised Germany, at the conclusion of the war, that her enforced disarmament was only preliminary to that of the rest of the Allied forces. If we break our word can we expect Germany to keep to her agreement? It is better that we should disarm to Germany's level than that she should arm up to ours.

Mr. BOUCHER, in leading the opposition to the motion, defined Disarmament as the putting aside of all arms and military equipment; he warned us that if we were to have total disarmament we must be prepared to put aside all weapons, which would include, amongst other things, knives, stones, catapults and bows and arrows. Even

food would be included as an armament, for, as Napoleon declared, "an army marches on its stomach," whilst milk-bottles, which were used so extensively as weapons in the strike of 1926, would be issued only with a licence. Tongues are a frequent cause of strife—then they must be excised! The speaker reminded us of the Latin adage, "If you wish for peace, prepare for war," and concluded by quoting Sir Arthur Keith's theory that as long as mankind is divided into different races, there can be no real peace.

Mr. DUNSTAN, who seconded the proposal, disagreed strongly with the lengths to which the previous speaker had taken his definitions, and compared governments with gangsters—the more heavily they are armed the more likely they are to fight. To prevent trouble, you must remove their arms. He denied that war fosters patriotism, for true patriotism stands for the good of the community; war merely produces hysterical slogans. Modern man is morally ahead of his primitive forebears, and capable of settling disputes by other means than fighting.

Nurse SAMBROOK, who then seconded the leader of the opposition, considered the League of Nations to be quite impracticable. It was a beautiful ideal, but a Utopia imagined by men as far in advance of their day as Omar Khayyam or Sir Thomas More had been. Evils lie not in external conditions, but in men themselves. Man is no more civilised to-day than when Romans killed Christians. Antagonism is a natural instinct, and as Professor Lancaster has said, "Civilisation is a struggle against Nature, and in the long run Nature wins." The consequences of total disarmament, she maintained, would be crippled industries, revolution, and invasion of Europe by the Yellow Peril. Disarmament was the frantic cry of the Conscientious Objector. If it came into force we might be sure that "Satan would fresh mischief find for idle hands to do."

An adjournment to the Lounge was made at this juncture, where the most excellent coffee, kindly provided by Home Sister, so refreshed us that when the House re-assembled to consider the subject in open debate speeches followed each other in rapid succession. We were presented with statistics, historical illustrations, terms of treaties and economical data (as well as individual prejudices), both in support of and against the motion. Prophecies were cited, and such high authorities as the Archbishop of Canterbury, the Bishop of Birmingham and Lord Cecil quoted. Some members spoke with much fervour and conviction, others took a lighter vein. Amongst the latter, Mr. Baker caused much amusement by his plea for a militant pacificism in which he compared his hearers to fleas on the back of a dog, the dog being the nation.

Mr. DUNSTAN, summing up for the opposition, took several of the salient points from speeches in favour of the motion, declaring them one by one to be invalid, and closed with the warning that disarmament would mean the downfall of the British Empire.

Nurse REYNOLDS then summed up for the proposers, declaring that other nations, even the much maligned Russia, desired peace, and were agreed that the only solution to the problems of the modern work was Total and World-Wide Disarmament.

The motion was then put to the vote, but defeated by ten votes, the supporters numbering only 56, as against 66 who sided with the opposition.

It is to be hoped that this will not be the last joint debate held by the societies. M. R.

Correspondence

Guy's Sailing Club

To the Editor of the GAZETTE

SIR,—We do not think it is well known among men at this hospital what facilities the Sailing Club offers to them.

The Club has its headquarters at Burnham-on-Crouch in Essex, and is affiliated to the United Hospitals' Sailing Club, which has a fleet of racing dinghies and a half-decker for the sole use of its members.

This coming season Guy's is losing many of its active members, who are leaving the hospital, and it is essential that there should be many recruits to replace them. It is not necessary for a man to know anything at all about sailing before he joins; the tyro is well cared for and initiated into the art by the Secretary or any of the Committee without any formality. All that it is necessary to do is to get in touch with the Secretary, who can be found with a little ingenuity, and who is very pleased to welcome new members.

To those who do not understand the scope of the Sailing Club may we point out that it offers facilities for both racing and cruising? At Burnham, members meet members of the Royal Corinthian Yacht Club, and are frequently invited to crew for them in races of all classes, besides having numerous opportunities to crew in cruising yachts, and sometimes in ocean races. In other words, if a man is at all inclined towards sailing

of any sort the Club will offer him the necessary facilities to take up the sport.

As regards expense, we should like to insist that sailing can be indulged in by those with quite moderate means. The subscription to the United Hospitals' Sailing Club is ten shillings per annum. This subscription is paid by the Clubs' Union for any keen member—any member who shows the minimum of interest and who goes down to Burnham three or four times in the season will find his subscription paid for him. The cost of a week-end ticket to Burnham is seven shillings, and bed and breakfast costs four shillings. Other meals are obtainable at reasonable prices. Thus the total expenditure on a week-end from noon on Saturday to Sunday night need not exceed £1, which we think is a very reasonable figure. In this time it is possible to get about 12 to 14 hours' sailing, and a more healthy way of spending a week-end after hospital work it would be impossible, we think, to find.

If men in the Medical School will only join the Club earlier they will more fully appreciate its advantages when they have to work in the Wards or live in the College, and we assure them they will be made welcome.

Yours, etc.,
T. F. TODD.
D. ERSKINE.

Guy's Hospital, S.E.1.

University of London Union

To the Editor of the GAZETTE

SIR,—I crave your courtesy to allow me a few lines of your magazine in which to bring before the notice of your readers the amenities, old and new, of the University of London Union.

The students of your College have, probably, preconceived adverse opinions of the Union which, perhaps, could be justified by the more remote past. But these opinions have, at the present time, not the slightest foundation of truth. That past is past; the present and future await a fresh trial and verdict by the students of the present Collegiate generation. We are convinced that such a trial will bring a favourable verdict, and we who, too, sometimes had adverse opinions, have not now any hesitation to present the following amenities of the Union as reason sufficient to justify more members of your College becoming subscribing members.

To save your space I merely list the amenities, and trust further details will be sought from the Union Office by those interested.

(*a*) Reduced membership fee for fully affiliated College members, 7*s*. 6*d*. Other members in ratio.

(*b*) New house activities, including guest dinners, gramophone recitals, visits to works and places of interest, etc.

(*c*) Societies' Lounge. For use of University and College societies. To be hired for so many meetings per term—3 meetings, 10*s*. 6*d*.; not more than 10 meetings, £1.

(*d*) Weekly Saturday night dances. New reduced rates.

(*e*) A fiction and *belles lettres* library.

(*f*) Restaurant for lunch, tea and light evening meals.

(*g*) Changing rooms and bathrooms.

(*h*) Lounges where most newspapers and periodicals may be read.

(*i*) University Union Colours. A new tie has been designed.

(j) Billiards, ping-pong, etc.

(*k*) Committee rooms for the use of University societies and members' meetings.

Yours, etc.,
WILLIAM R. WARD,
President.

University Union,
68, Torrington Square, W.C.1.

Osteomyelitis of the Mandible

A Paper read before the Dental Society, Guy's Hospital, by W. G. Scoble, Esq.

MR. CHAIRMAN and GENTLEMEN,—Ever since I first went up into the Conservation Room I have regarded the mandible with a certain amount of affection, this being due originally, I think, to the discovery that it was much more convenient to cut and fill cavities in mandibular premolars and molars than in those of the maxilla. From this beginning, the more I have learned of dental surgery, about such things as fractures and mandibular third molars —cases which seem to brighten the steady routine of ordinary dental practice—the more the mandible has seemed to become our own particular part of the body. This may appear a somewhat extreme view to many of you, and also rather hard on the maxilla, but I do hope that this paper will help to ensure kinder treatment for the mandible when planning and performing certain minor surgical operations. I think that when we realise more fully what constitutes osteomyelitis of the mandible, the possible extensive pathological involvement, the possible facial disfigurement due to loss of bone and the various dental ways in which it may be caused, then we shall be more

impressed with the need of care and forethought in the treatment of the conditions of the mandible and of the neighbouring structures.

Before dealing with actual causes of this disease I should like just briefly to run over what we learn about the pathology of osteomyelitis while we are working for our general surgery examination. We learn at first, of course, that it is chiefly a disease of childhood and adolescence, because it commonly begins in the newly formed bone on the shaft side of the epiphyseal line. As its name tells us, it is an inflammatory process involving bone and marrow, chiefly caused by a staphylococcal infection, although some cases are caused by streptococci and other pyogenic cocci. It is a simple suppurative inflammation, the progress of which is modified by the density and rigid nature of the bone itself. There is no room for swelling in the small spaces of the bone as there is in the soft tissues; therefore one can imagine the inflammatory exudate being dammed up more or less under pressure. This causes the constriction of the blood vessels in the Haversian canals, thus leading to a blockage of the blood supply and the necrosis of the bone. At this stage there are also serious constitutional complications due to the absorption of toxins. Leucocytes are poured out around the invading pathogenic organisms and an abscess containing a thick yellow pus, surrounded by an area of intense hyperæmia, is formed. This abscess usually spreads to other parts of the bone, such as the medulla and the surface, pus appearing under the periosteum. Then there is much less resistance, and the pus spreads widely, stripping the periosteum from the surface of the bone. The periosteum then becomes much thicker and congested, and is soon perforated either by the pus bursting through or by the incisions of a surgeon. The superficial part of the bone also is necrosed owing to the obliteration of the small periosteal arteries.

Finally, the inflammation subsides and the healthy living tissue tends to throw off that portion of the bone which is dead. About the same time the periosteum begins to lay down a layer of bone called the involucrum, which completely envelopes the necrosed bone, leaving openings in its wall called ostia or cloacæ, where the pus had been allowed to escape. The reaction taking place at the margins of the necrotic portions of bone consists of a rarefying osteitis, vascular granulation tissue being formed, which erodes the trabeculæ, setting the dead bone free as sequestrum. When this is loosened in the cavity it may be discharged, but if the involucrum is sufficiently calcified and firm enough to maintain the shape of the bone, then the surgeon steps in and removes the sequestrum, as it interferes with healing, causing a chronic inflammation which may last for many years. The involucrum then more or less resumes a normal shape by a process of absorption in certain places, combined with depositions of new bone elsewhere. We will leave the symptoms until we come to osteomyelitis of the mandible itself. In the adult the progress is not so rapid nor so uniform in character as in the child, due, chiefly, to an increased general resistance to staphylococcal infection and to the fact that any part of the bone might be affected.

Before considering the causes of osteomyelitis of the mandible, it is as well to know that many authorities believe that the mandible, or rather the body of the mandible, resembles the long bones in structure, the mandibular canal being analogous to the Haversian canals, inasmuch as infection can spread along it comparatively easily to other parts of the bone.

Osteomyelitis is more common in the mandible than the maxilla, because the former is far more exposed to injury, is composed of more compact bone and has a poorer blood supply. The majority of actual causes of osteomyelitis of the mandible are purely dental, for pathogenic bacteria find an easy entry into the bone by way of decayed and infected teeth, pyorrhœal pockets and the inflammation set up by impacted teeth. One of the most important causes, as far as we are concerned, is the extraction of teeth. The disease often begins as a dry socket or infective osteitis, giving rise to a persistent nagging ache, quite as bad, if not worse, than the original pain. The whole tooth has been removed, yet the socket will not heal up. We still see many of these cases when we are casualty dressers, and the patient always looks really ill and complains of having no sleep since the extraction of the tooth. The soft tissues at the edge of the socket are acutely tender and bare bone is found on probing, pus sometimes being discharged. If this condition is neglected in any way, the inflammation will often spread to other parts of the bone and set up an acute osteomyelitis. These septic sockets frequently result from the extraction of teeth with a local anæsthetic, as the injection depresses the vitality of the tissues so that they are prevented from healing with their usual ease and are less resistant to infection. Then again, if the injection contains too much adrenalin, bleeding is prevented and, instead of the socket being filled with a clean blood clot which protects the bone, it is left open for any infection to enter. That is why it is so important to squeeze each socket after extraction and to see that it is filled with blood. Treatment of a septic socket consists of syringing thoroughly

at least once every day, and if the pain is severe a wisp of cottonwool saturated with an analgesic may be placed in it.

A local injection may be the cause of osteomyelitis in yet another way, although it is rarely met with nowadays. This is when the injection is made into tissues which are inflamed, the pressure of the injection forcing any infective matter through the natural barriers set up, thus causing infection of a much larger area.

Precautions should also be taken in after-treatment, particularly when any degree of violence has been used in extraction, or if the site of operation is in an undrainable position, for example, a lower third molar. Many of us will remember frequent warnings with regard to impacted lower third molars. If there are any signs of inflammation in the soft tissues or evidence of trismus, it is far better, in fact almost imperative, to postpone extraction for at least a week in order to clear up that inflammation by means of daily syringing and the use of hot mouth baths by the patient. The necessity for this can be readily recognised when one realises the amount of injured tissue which is left with lowered resistance, facilitating the spread of infection. Apart from these cases, osteomyelitis following extraction will be very rare if the instruments are sterile, the teeth are thoroughly scaled and cleansed, and the alveolar bone is not extensively damaged.

Osteomyelitis may be caused by the spread of inflammation from an acute alveolar abscess, and it should be suspected if the inflammatory symptoms are prolonged after the cause of the abscess has been removed and the abscess itself has subsided. However, the infection seldom spreads beyond a localised periostitis, a portion of the alveolar wall being necrosed and rarely the whole depth of the mandible.

Osteomyelitis complicating pyorrhœa is not common these days, as the disease may always be prevented by fairly early treatment of the pyorrhœa. If it does occur, it may be either in an acute or a chronic form. The former sometimes extends to the whole body of the jaw and the latter slowly spreads through the cancellous body of the bone and is accompanied by an extensive deposit of periosteal new bone. The importance of early treatment applies in the cases of ulcerative and gangrenous stomatitis, although osteomyelitis is more likely to result under these conditions, as they usually occur either in young, undernourished children or in adults whose resistance has been lowered by diseases such as diabetes or chronic nephritis.

As fractures of the mandible are usually compound into the mouth, they are often complicated by a septic infection, inflammation and subsequent necrosis. To prevent this, it is important that sepsis in the mouth should be reduced as much as possible by constant irrigation and efficient drainage. All septic teeth should be removed, especially those in the line of fracture, and also loose fragments which have been separated from the main body of the bone and are, therefore, obviously necrotic.

Osteomyelitis of the mandible may also be caused by infection through the blood stream, either as secondary site of infection from osteomyelitis elsewhere in the body or as a complication of the exanthematous fevers. There is a disagreement among the authorities regarding this latter cause. Some state that the osteomyelitis is caused by a secondary infection with pyogenic bacteria through the blood stream, whilst others state that it is caused by stomatitis or injury by the instruments used in treating the throat conditions. Unless oral hygiene is practised very rigorously the mouth is inclined to become very septic, the tissues having a lowered resistance. Scarlet fever is most commonly complicated in this way, and others are measles, typhoid and, very rarely, smallpox. It usually occurs during the acute stage, that is, the second and third weeks of the fevers, and in children between the ages of four and six. The angle and ramus of the mandible are the commonest sites of infection, and in these cases there are frequently found organisms other than the usual staphylococci, such as the influenza bacillus or the typhoid bacillus.

Infection of the mandible may also result from poisoning, such as arsenical, mercurial and phosphorous poisoning. This results, not so much from the direct action of the poisons, as from the fact of a septic infection of tissues weakened in resistance and thus rendered more susceptible to the attack of pyogenic bacteria. As in the case of the fevers, however, these can be almost always prevented by local cleanliness. Some authorities are of the opinion that the tubercle bacillus is the active agent, especially in phosphorous necrosis.

Finally, there are the chronic necrotic conditions due to syphilis, which, however, is rare in the lower jaw, and to tuberculosis, which is said to begin by infection of a local injury or following too extensive extraction in a tubercular subject. The progress of the disease in this latter case is very difficult to arrest.

The condition of osteomyelitis of the mandible usually begins with a severe pain in the jaws and a swelling and tenderness of the gums. Pus quickly forms and oozes up by the sides of the

teeth and through sinuses in the gums. As the periosteum is stripped from the bone the teeth become loose, and may even fall out. The breath becomes fœtid and the patient experiences great difficulty in opening the mouth, trismus always being present. The face becomes very swollen and œdematous, the skin being red and shiny, and, besides pointing inside the mouth, the abscess may point on to the face, in which case it should always be incised and not allowed to burst. The pus often tends to burrow downwards between the fascial planes of the neck. Finally, the acute inflammatory process subsides, a portion of the mandible dies, the process of separation begins. Then new periosteal bone is formed and, when the sequestrum comes away, it rapidly tends to resume its normal shape, instances being known of whole jaws being replaced in this way. As with osteomyelitis in general, the constitutional symptoms are severe, the temperature being high, the pulse rapid, and the patient looking and feeling really ill, due to the septic absorption. Also large amounts of pus are liable to be swallowed, causing gastric complications.

It is imperative that the treatment should be prompt and efforts should be made in the beginning to localise the disease. This is done by applying hot fomentations in the mouth and, when pus forms, removing teeth in the area involved and making free incisions in the buccal sulcus right down to bone. Some surgeons go further and chisel or drill holes into the bone and into the mandibular canal. Really hot mouth washes should be used and sinuses and sockets of teeth should be thoroughly syringed. Before doing more, it is best to wait until the acute symptoms are over, all sinuses being irrigated until the sequestrum becomes loose. Good drainage is the most essential part at this stage, and if the whole depth of the mandible is necrosed it may be advisable to make an incision along the lower border and put in drains. The fact that the sequestrum is loose may be ascertained by probing the sinuses to see if the bone rocks. When the necrosis involves a large portion of the jaw it is best to remove it before it is finally separated, as long as sufficiently strong involucrum has formed to maintain the shape of the jaw. In rare cases it is even necessary to remove the necrosed bone before this takes place, and then the periosteum must be prevented from collapsing and the shape of the jaw preserved by means of special splints. Sometimes in a chronic tubercular case it is necessary to operate before even demarcation has taken place, taking away more bone than is actually infected. Each sub-acute and chronic case has its own treatment, but there should always be ample drainage and irrigation and each case should be watched until a firm involucrum is formed. Application of infra-red rays is often helpful.

Attention must be paid to the general condition of the patient, periodical purges being given, large doses of potassium iodide and a nourishing diet, as the general health of the patient naturally helps tremendously in the resistance to the infection.

To recapitulate, osteomyelitis is a suppurative inflammation of bone and marrow, of chronic or acute type, with or without accompanying pain, occurring more frequently in the mandible than in the maxilla. It may follow dental extraction or may result from one or more infected or impacted teeth. It is frequently the result of injury (compound fracture), and is occasionally hæmatogenous in origin. The most important principle in treatment is the maintenance of ample drainage and irrigation.

In diagnosis the condition may be confused with a malignant growth or with secondary infection, but a careful study of the symptoms combined with a judicial use of X-rays will usually eliminate these possibilities. As osteomyelitis is a suppurative inflammation of bone, there is obviously destruction of bone tissue, and the areas of rarefying osteitis show as dark shadows in the X-ray. These shadows are not seen until eight to ten days after the commencement of the disease. When the condition is a little more advanced it can be recognised by a characteristic worm-eaten appearance, represented in the X-ray by a dark area which is not definitely circumscribed, but is of varying shades showing different degrees of bone destruction. Prompt treatment at this stage may arrest the progress of the disease. Actual necrosed bone cannot be recognised until it is sequestrated, and then it is surrounded by an irregular dark shadow of rarefying osteitis. The exception to this is when the sequestrum is of long standing, when it appears rather lighter in shade, as it is more dense than the normal bone. The importance of X-rays cannot be too strongly emphasised, both as a means of diagnosis of osteomyelitis and for keeping a check on the actual course of the disease.

In conclusion, I should like to run though the records of one or two actual cases in order to establish more clearly in our minds the progress of the disease.

A girl, aged 21 years, was sent up to the Dental Department in February, 1932, with the following history :—

She had had lower left 5 and 6 extracted, and a month later a swelling had appeared in that region. The front teeth became painful and the lower left central was removed to provide drainage

for the supposed abscess. The swelling became harder, although the tenderness varied and the patient recently became deaf. She was seen during one of our morning clinics, and the condition was considered to be due to a spreading periostitis and possible osteomyelitis of the mandible. Radiographs confirmed this diagnosis, the bone from the lower left 5 to the lower right 5 being affected and new periostial bone was being laid down in the incisor region. Clinically, all the lower teeth were very loose, with the exception of the lower right 7 and the lower left 7 and 8. The lower left 4 was extracted and a small quantity of pus evacuated, the socket being syringed daily. A week later there was a marked swelling around the left angle of the jaw and the patient was unable to open her mouth. The admittance of the patient to hospital was considered, so that the resistance to the spreading infection might be increased. A week later the patient looked really ill, temperature 99.5°, and there was almost complete inability to open the mouth. The swelling over the left angle was more marked, and small areas of tenderness were present. It was considered advisable to admit the patient to Lambeth Infirmary, as no accommodation was available at the hospital. A fortnight later the patient was discharged, and she attended the clinic for further treatment. The extraction of the lower right 8 and the lower left 7 and 8 was advised to provide drainage, and this was done on the following day. The patient had very hot fomentations applied and felt very much easier; an expectant treatment was advised. On June 11th the patient's condition was much improved and the mouth could be opened to almost the normal extent. One small sinus was present in the lower left 4 region. The patient was examined at fortnightly intervals. On October 19th further X-rays were taken, which showed a complete resolution of the diseased process. This was a case of sub-acute osteomyelitis, and its special characteristics were, firstly, the presence of only a small amount of pus and, secondly, no necrosed bone was discharged as sequestra.

This proved a most interesting paper, and was followed by a casual communication by Mr. J. G. Spiller on "A Family History of Pyorrhœa." A discussion both diverting and intelligent ensued, and the meeting adjourned with a vote of thanks to both speakers.

Reviews

The Use of Lipiodol in Diagnosis and Treatment. By J. A. SICARD and J. FORESTIER. Published by Oxford Medical Publications (Humphrey Milford). 235 pp. *Price* 16*s.* net.

THIS book, which is a translation of an earlier French edition, is written in a style which is somewhat strange to one accustomed to reading an English text-book or monograph. It contains very nearly all there is to know about the use of lipiodol; the portion devoted to its fate when introduced into the body by the various routes is particularly valuable and should certainly be read by everybody using the oil; of particular interest is the demonstration that the daily elimination of iodine in the urine is constant in amount and does not vary with the volume of oil injected.

There are, however, several irregularities and omissions in it. For instance, in the consideration of the relative value of the various routes for administration of the oil for lung-mapping prior place is given to the crico-thyroid route, although it is acknowledged that local infection and even gangrene have not infrequently followed its use; the most widely used method, the aspiration or supraglottic method, is described in a totally inaccurate manner and dismissed as unsatisfactory. It is not surprising it was found so disappointing if the authors followed their own description. No mention is made of certain well-known pitfalls and drawbacks in the bronchoscopic route.

On page 127 is a reference to the value of lipiodol in diagnosing an intrapulmonary lesion from a "pleural ring"; two radiographs illustrating the latter are given; they portray a condition that can hardly be labelled as a pleural ring seeing that the lesion shows as a spherical cavity in both the antero-posterior and lateral views and has also an apparent fluid level in it. At the very least the case requires much more amplification in the text.

No mention is made of the recent work on cerebral arteriography, in spite of the fact that a section is devoted to delineation of blood-vessels and the results of animal experiments by the authors are mentioned; this is one of several points suggesting the revision of the book for a 1932 edition could have been more thorough. It is also surprising to find that no mention has been made of Jacobæus's valuable suggestion of using, on certain occasions, lipiodol which has been

coloured with Sudan iii; this is of great value in investigating the course and connections of sinuses, fistulæ and abscess cavities.

The best radiographs are in the section dealing with spinal injection; there is also a useful survey of the literature on the value and safety of the method.

On the whole the book starts extremely well, but becomes more disappointing as one nears the end. The final section is on the value of lipiodol in treatment; the bald presentation of its virtues as a panacea for most of the commonly very resistant aches and pains of the body is both unscientific and unconvincing. There is a very full and useful bibliography attached.

The Glycosides. By E. F. ARMSTRONG, D.Sc., Ph.D., LL.D., F.R.S., and K. F. ARMSTRONG, B.A., B.Sc. Published by Messrs. Longmans, Green & Co., Ltd. (Monographs on Biochemistry). *Price* 12*s*.

THIS book by Professor Armstrong and his son is the latest addition to the well-known series of "Monographs on Biochemistry." The Monograph already issued in this series on the *Carbohydrates and the Glycosides*, by the senior author, is a standard work, and leads one to expect that this book will reach the same high level. In this expectation one is not disappointed.

The glycosides are defined as substances yielding any sugar and one or more other products on hydrolysis with acid; the term is used to distinguish them from the *glucosides*, which yield only glucose under such treatment. The authors follow the now customary usage of calling the non-carbohydrate part of the molecule the *aglucone*.

The writers start by briefly dealing with the structure of glucose, and the recent work of Haworth in establishing it as a 1 : 5 glucopyranose ring is mentioned. The various types of sugars and aglucones met with in glycosides are considered, and the specific enzymes found.

In successive chapters the authors mention the chemical characteristics and properties of various typical members of the important groups. The phenolic, hydroxyanthraquinone and coumarin glycosides, and the anthoxanthin and anthocyanin groups are all detailed. Some speculation as to the functions of the flavones and anthocyanins is indulged in. The former may, perhaps, be considered as excretory products, and both may also occur as light screens. The anthocyanin glycosides occur especially in large amounts when metabolic activity is high. The various theories for the origin of anthocyanins in plants are also stated.

The glycosides with physiological action are now discussed: the digitalis and strophanthin series and the chemistry of the heart-specific members are mentioned in some detail. The saponins are also considered and their physical and physiological properties summarised. The statement, however, that they possess hæmolytic action, "occluding the red corpuscles of the blood," seems completely obscure.

The mustard oil glucosides, containing sulphur, and the cyanophoric glycosides are next met. Amygdalin is the best known member of the last class, and the authors trace the very interesting history of its chemistry extending over one hundred years, though only in 1923 was the sugar part of the molecule identified. The nucleosides, indican and the pentosides are also considered.

The most brilliant aspect of glycoside chemistry comes next, namely, the various syntheses which have been effected. The methods used are given in outline and the attempts made are discussed, culminating in the synthesis of anthocyanins by Robinson and his co-workers. The enzymic syntheses of Bourquelot are also mentioned.

The uronic acids are next considered. These are of interest to animal as well as plant physiologists, as they feature in many protective syntheses. They are also found widespread in plants.

A most interesting aspect of the subject comes towards the end of the book, where the functions of glycosides are dealt with. There is not space here to mention all the theories put forward. In some aspects glycosides may be considered as methods of storing reserve materials; they may also be a method of detoxicating harmful waste products. Many aglucones are antiseptics, and they may be stored in seeds to prevent bacterial action in the reserve stores, since the slightest interference is sufficient to allow the specific enzyme to break them down. H. E. and E. F. Armstrong consider that the products of hydrolysis may act as hormones, directing plant activity. Some very important facts are adduced as to the influence of glycoside content of various fodders on the nutrition of farm animals.

The last chapter deals with the utilisation of carbohydrates in plants, and is of a more general nature. The carbohydrate changes in the storage and ripening of fruit and vegetables are mentioned, and also those which take place during the maturing of cereals. The effects of frost and of temperature changes on fruit are outlined, and the importance of these facts in commercial refrigeration is pointed out.

This summary of the properties of so many compounds in a relatively small space will be

found most welcome to biochemists and students working on this aspect of organic and plant chemistry. A very good list of references is appended, and the whole book is got up in the style one now expects in this series. Only one obvious, though small, misprint was found, at the bottom of page 50.

J. T. I.

Guy's Hospital Reports. Vol. LXXXII (Vol. XII Fourth Series), Nos. 3 and 4. October, 1932.

THE double number of the *Guy's Hospital Reports*, dedicated to Sir William Hale-White in celebration of his 75th birthday, is not only a graceful tribute of respect to a great clinical teacher, but also another example of the energy and enterprise of the Editor. He has stimulated eleven of Sir William Hale-White's former House Physicians to contribute to this issue and has gathered articles from India, Australia and New Zealand.

The reports open with an impressive reminder of the range of Sir William Hale-White's interests in the simple list of the 38 papers contributed by him to the reports during the last 50 years. They illustrate the gradual development of his career, from the dissecting-room papers through a series of brilliant clinical papers, all of which are classics, to the recent historical papers.

The number falls naturally into three parts, the first consisting of the papers of Sir William Hale-White's former House Physicians; the second of a symposium upon colon bacillus infections, and lastly, a series of papers upon diseases of the blood and vessels.

In the first part, all are interesting, but three stand out as important and illuminating contributions to the literature. Dr. Cameron gives a clear and detailed account of Eliasberg and Neuland's conception of epituberculous infiltration of the lungs. The idea of an extensive non-tuberculous pulmonary infection surrounding a smaller tuberculous focus is now generally accepted. The recognition of such cases is important because, if the condition is not appreciated, a very grave prognosis will probably be given upon the extent of the consolidation. Many of these cases have now been described in which the patient appears very much fitter than the extent of the consolidation (if tuberculous) would allow and where the apparently extensive pulmonary infiltration clears up, leaving only a very small healed tuberculous focus in the centre. Unfortunately, only one post-mortem has been obtained during the stage of benign consolidation, and here the condition was only of collapse and not infiltration

Dr. Poulton's paper (written with Dr. Ryffel) on urea concentration, urea output, and urea clearance marks a real advance and crystallises our ideas upon the subject. It had long been recognised that the simple urea concentration test was liable to many fallacies and that the volume of the urine should always be taken into account. This has been done here for some time, and, in fact, urea output and not urea concentration has been the test applied at Guy's. Even this is liable to be fallacious in the presence of high blood ureas, since the stimulus to urea output depends upon the height of the blood urea which, therefore, must be taken into account in addition in any satisfactory test of renal function. The maximum urea clearance test as described by Dr. Poulton presents an exact analogy with, and gives just as clear a picture of the renal function as the glucose and lævulose tolerance test in their respective spheres. In fact, it might almost be called a urea tolerance test.

Dr. Heaton then describes a series of experiments which seem to indicate the presence of a growth inhibiting factor in many ordinary foods which is antagonised by Vitamin B2.

The symposium on colon bacillus infections is linked with the first group by a reprint of Sir William Hale-White's paper on the importance of examining the urine bacteriologically, which, although written 20 years ago, is extraordinarily modern in its outlook. Dr. Ryle follows with an article of a type peculiarly his own, a piece of medical philosophy. Dr. Knott treats the problem bacteriologically, Mr. Thompson and Mr. Gibberd deal with the genito-urinary and obstetric point of view, and Dr. Cameron describes the infections as they occur in children. Dr. Hurst concludes with an article on bacillus coli cholecystitis, in which he summarises the modern knowledge upon the subject, to which he has made so large a contribution himself.

A disease of the blood and vessels dominate the third group of papers. Dr. Witts has gathered some further cases of obscure anæmias and has extracted from them clear clinical pictures. His three papers show that there is no stagnation in the subject which he has made his own. Notes on cases of migratory thrombo-phlebitis, pancreatitis, lymphatic leukæmia, diaphragmatic hernia, Ayerza's disease, and an account of an extraordinary accident to a medical student complete the number.

Anatomy of the Human Orbit. By S. ERNEST WHITNALL. Second Edition. Published by Humphrey Milford, Oxford University Press. *Price 25s.*

THE first edition of this book appeared ten years ago. It is sufficient index of its merit that a second edition should appear in so short a time.

Since then many papers have been written, and the author has incorporated in the new edition the subject matter of over 190 papers. In addition to this, some excellent coloured illustrations are inserted, and these with the many dissection photographs form a feature of the book, and probably account for the rather high price. We should like to say more of the photographs. They are taken from beautiful dissections of many aspects of the orbit and its surroundings, and their recording is surprisingly good. Many previous attempts have been made to include such illustrations in text-books, but they are generally bad. This book is an exception, and we congratulate the artist. They should be of great use to the surgeon and the anatomist.

Although this purports to be a treatise on the orbit, a considerable number of surrounding structures are dealt with, so that the book has the additional attraction of being a valuable reference for the oto-rhino-laryngologist.

Turning to the actual subject matter, the book is divided into four parts.

Part I deals with the bones forming the orbit, its relations, and the accessory air-sinuses of the nose.

Part II gives an account of the eye-brow, eye-lids, conjunctiva and lacrymal apparatus.

Part III is divided into considerations of the globe, the ocular muscles and the blood vessels and nerves. In this section there is a particularly good coloured diagram showing the connections of the vessels of the orbit with those of the face and the intracranial system.

Part IV is called the Appendix, and contains a good account of the cranial connections of the nerves, and in particular some original diagrams of the ultimate distination of the optic tracts.

A full bibliography is included, and from the anatomical point of view forms an important feature of the book.

This book should find a place in all medical and anatomical libraries, and, indeed, would be an asset to the shelves of the oto-rhino-laryngologists and ophthalmic surgeons. We do not, however, recommend it to the general medical student, except as an excellent book of reference of a subject matter and bibliography.

Blood Pressure. By J. F. HALLS DALLY. *Price 3s. 6d.*

"BLOOD Pressure" is a term which has captured the imagination of the public to such an extent that a full understanding of the subject is essential to those engaged in medical practice.

This small book presents the subject in a style which is both brief and delightful to read. In the earlier chapters the meaning of blood pressure is discussed, methods of estimation are described, and the various types of arterial pressure classified.

The chapter concerned with the prevention and control of high pressures is extremely good, but prognosis is inclined to be rather dogmatic and gloomy. As a book for nurses and social workers, for whom it is primarily intended, the book is, perhaps, rather advanced, but for those students and practitioners who require a practical, but not too technical, account of this important subject the book is thoroughly recommended.

The Francis Treatment of Asthma. By ALEXANDER FRANCIS, M.B., B.Ch., B.A. (Cantab.), M.R.C.S. (Eng.). Published by Messrs. Heinemann (Medical Books), Ltd. *Price 7s. 6d.*

IN this book Dr. Francis puts forward the views on the nature and treatment of asthma which he has formed as the result of 40 years' study of the subject. In his opinion asthma is a vaso-motor neurosis. In subjects with an unstable vaso-motor system and in whom a condition which he calls hyperpyræmia, or excessive carbonaceous material in the blood stream, exists, various predisposing causes may result in a dilatation of the vessels of the bonchioles, thus constituting a mechanical obstruction to the passage of air in respiration. Muscular spasm is not responsible. His treatment, which he discovered accidentally while practising as a rhinologist, is to stabilise the vaso-motor system by the stimulation of nerve endings in the nasal mucous membrane by means of the electric cautery, reducing the blood pressure in those persons in whom it is too high and inciting it to rise in those in whom it is too low.

Although it is to be feared that these methods of treatment will only give good results in the hands of those possessing an esoteric knowledge of the nasal mucous membrane, Dr. Francis appears to have had a remarkable series of successes in his cases; of all types of asthma, on 400 cases of which he gives notes in this volume, more than three-quarters of the sufferers were completely or greatly relieved, which is more than can be claimed for many other methods of treatment of this disease based upon a surer foundation.

Rheumatoid Arthritis and Its Treatment. By VINCENT COATES and LEO DELICATI.

THIS small book contains a very practical account of 100 cases selected at random from the wards of the Royal Mineral Water Hospital at Bath.

Special reference is made to a few of the more simple biochemical investigations and their clinical interpretation. Treatment follows orthodox lines and is fully dealt with. The chapter on the prevention of joint deformity is very good, and the Spa treatment is not over-emphasised.

There is a wealth of clinical information within its pages, and it is recommended to all who are interested in the subject.

Sanitary Law in Question and Answer. By CHARLES PORTER, M.D., B.Sc., M.R.C.P. (Ed.), and J. FENTON, M.D., D.P.H. Third Edition. Published by Messrs. H. K. Lewis & Co., Ltd. *Price 7s. 6d.* net.

Handbook of Sanitary Law. By B. BURNETT HAM, M.D., D.P.H. (Camb.). 11th Edition. Published by Messrs. H. K. Lewis & Co., Ltd. *Price 7s. 6d.* net.

THESE two small manuals have been used for many years by those who study for Public Health degrees. The authors have revised and in both cases enlarged their volumes to include recent law. It must, however, be remembered that most text-books of hygiene contain a more or less adequate summary of sanitary law and that the student who buys one of these accessory volumes will find little fresh information. Their value can rest only in a different method of presentation that will assist memorisation.

Dr. Burnett Ham's book has precise and clear resumés of the law, well arranged and set down in excellent type upon good paper. It is of such a size that most pockets will swallow, and it can thus conveniently be perused between the more interesting functions of life. It has one marked disadvantage to those who rely extensively upon visual memory—the pages are small and an Act that could be contained upon two opposing pages in a larger book may require four or five in this volume. There is a break in continuity which those who work by this method will understand; for the others it does not matter.

The book by Drs. Porter and Fenton is "different." Instead of clear extracts of the various Acts, the problem is approached by means of a question to which an answer is given, to each Act its question and to each its answer. The book is obviously meant to help those who cannot help themselves; those who cannot in the examination hall manœuvre their knowledge into the required form. Most students for Public Health degrees are already qualified medical men, their brains are well on the way to maturity, and they must of necessity have also had considerable experience in the art of written replies. It is difficult to believe that many should find this circuitous route the more satisfactory. Dr. Porter in the preface to the first edition suggests that for various reasons Sanitary Law is difficult. It is not. It is boring, and most students wish only to have their burden lightened by concise clarity.

Guy's Hospital Gazette

(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Sport

Rugby

Guy's v. Old Merchant Taylors

AT Teddington, on Saturday, January 7th, Guy's were defeated by 2 placed goals and a try (13 points) to a placed goal and 2 tries (11 points).

As the score indicates, it was a very hard and close struggle, and Guy's had bad luck in not snatching a victory in the last minute of the game. With only two points separating the teams, Clegg, Kark and Johnson followed up a long punt by Giesen, which Parry, the Old Boys' full-back, missed completely and slipped whilst trying to field it. Although the ball bounced perfectly, five yards from the line, Clegg knocked on near the posts and, much to his disgust, lost a certain try.

The ground was in perfect condition, but the players found it difficult to keep their feet—due, no doubt, to the sharp overnight frost which made the surface slippery.

Guy's still have difficulty in fielding a full side, but the deputies who have played in the last few games showed that they have profited by their experience in the senior side, and improve in every match. Both Bowles and Wright are playing with plenty of confidence, and if the latter would only finish off some of the openings which he is capable of creating, by passing at the right moment, then Guy's will not have to look far for their half-backs.

In the first half the forwards did not work so well as they have done, but after the interval they improved considerably, and there was no better forward on the field than Hogbin. He was a tireless worker in the set scrums and stood out prominently in the loose, whilst his opportunism and clever backing up enabled him to score the first two tries for the Hospital.

From the kick-off Guy's took the Old Boys by surprise, when Bowles slipped round the blind side of a scrum just outside the 25 line and, when faced by the full-backs, passed inside to Hogbin, who crossed for a try, which he also converted.

Recovering from this early shock, the home side set out to wipe off the deficit, and in a short space of time Guy's had to touch down twice. Their perseverance was rewarded eventually, when the brothers Heck started a movement in mid-field which led up to the Guy's 25. From here a reverse pass was sent to Huskisson, who raced through the Hospital defence to score near the posts, and Spragge had no difficulty in adding the goal points.

For a time the exchanges were even, but Wright managed to slip through and was only thrown into touch a yard or two from the corner flag. From the line-out Hogbin secured, and flung himself over in the corner for an unconverted try.

The Old Boys again retaliated, and some quick and accurate passing carried them some 40 yards before Hogbin intervened and made a good dribble to near their 25. From here Giesen made a great effort to get through, but was overpowered by numbers, and the Old Boys returned to the attack. The ball travelled quickly from the left to the right wing to Spragge, who cut inwards and again equalised the scores by scoring a try wide out. The Hospital defence was badly at fault, and their efforts to stop Spragge were very weak and half-hearted.

After the interval both sides went "all out," and a splendid struggle followed. The tackling was exceptionally good, and the first ten minutes were mainly confined to play in mid-field. However, Hogbin and Morgan dribbled the ball to within a few yards of the line, but the advantage gained was lost through one of the forwards getting offside.

Splendid combination by Giesen and Bowles nearly led to another score, but soon afterwards H. D. Heck picked up in the loose and created an opening for W. R. Spragge, who raced half the length of the field and scored a try behind the posts, which his brother converted.

Guy's made tremendous efforts to get through, and after Hogbin had just missed a long-range penalty, Wright made a fine run through the centre, but he flung his pass too far back for Ashdown, and a good opening went astray. However, a minute later Bowles sent a quick pass to Giesen, who spotted the Old Boys' defence on one side of the field and cross-kicked to Johnson, who ran over for an unconverted try. Although "no charge" was given, Hogbin missed the kick at goal.

The home side then attacked *en masse*, and for a few moments the Hospital's defence was sorely taxed. However, they managed to keep their line intact, but not before they had given away an easy penalty kick, which Spragge kicked wide.

In the closing minutes, Guy's pressed hard and secured a scrum inside the 25 line, but were penalised for not putting the ball in straight.

Right on time the Hospital had a wonderful chance of snatching a victory, when the opportunity already referred to presented itself.

Team.—W. J. R. C. Morgan; D. E. Ashdown, C. G. Wright, W. B. Clegg, A. G. Johnson; J. E. Giesen, V. H. Bowles; M. R. Kark, J. P. O'Shea, G. M. Van der Merwe, M. L. Walt, R. J. Drummond, R. A. P. Hogbin, T. Morgan, A. R. Clarke.

Golf

THE PRESIDENT'S PRIZE

THROUGH the kindness of Dr. Cameron, the Golfing Society spent a most enjoyable day at Addington Palace Golf Club on Wednesday, November 23rd.

A medal competition was played in the morning, when prizes were awarded for the best Gross and Net scores. A Four-Ball Competition *v.* Bogey was played in the afternoon, when two prizes were awarded.

The entries for both of the events were good. Unfortunately, few cards were returned in the morning, owing to a heavy shower which broke over the course about 12.30. Owing to darkness, the Four-Ball Competition was decided over 14 holes.

Results :—

Morning: Gross—C. B. Elstob, 85.
Net—C. B. Elstob, 85—3=82.
H. Cameron, 87—4=83.

Afternoon: W. Lewis, F. J. R. Stoneham } 4 up.
P. M. F. Bishop, W. B. Clegg } 2 up.

Hospital Information, etc.

Notice

The Annual Dinner of the Guy's Hospital Dental Society will be held at the Trocadero Restaurant, London, W.1, on Saturday, February 25th, at 7 p.m. for 7.30 p.m.

A Clinical Meeting will be held in the afternoon of that day from 2.30 until 5 p.m., to which all past and present students are invited.

Demonstrations will be given by members of the Staff and cases of clinical interest will be shown. A provisional programme is being circulated to old Guy's men.

L. G. LYLE,
Hon. Secretary.

Pass List

LONDON UNIVERSITY.
M.D. EXAMINATION.
December, 1932.
BRANCH I.
Medicine.

*E. T. Conybeare — F. H. Stevenson

BRANCH II.
Pathology.

C. K. Simpson. — N. Sinnadurai

* University Medal.

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
December, 1932.
Surgery

*J. L. Bates — L. Wailer

* Holds Diploma.

Papers by Guy's Men

W. H. Ogilvie. Common injuries of the wrist. *Clin. Jour.*, 1933, xlii, 1.

Sir W. Hale White. Bacilluria. *Clin. Jour.*, 1933, xlii, 12.

R. D. Gillespie. Psychotherapy in general practice. *Lancet*, 1933, i, 1.

T. I. Bennett. Modern conception of nephritis and its bearing on certain problems of life assurance. *Lancet*, 1933, i, 8.

J. F. Rey. Case of post-vaccinal encephalitis. *B.M.J.*, 1933, i, 60.

S. J. Hartfall. Anæmia of carcinoma of stomach. *Lancet*, 1933, i, 74.

R. N. C. Smith. Case of anæmia during pregnancy. *Lancet*, 1933, i, 83.

A. F. Hurst. Pre- and post-operative treatment of gall-bladder disease. *Brit. J. Surg.*, 1933, xx, 444.

Appointment

Dr. J. Chamberlain, Medical Registrar, Children's Hospital, Birmingham.

Birth

GAIN.—On 13th January, 1933, at Dulwich, to Constance, wife of R. D. G. Gain, L.D.S., R.C.S. (Eng.)—a son.

Marriage

WILLS—TOWNEND.—On 17th December, 1932, at the Parish Church, Harrietsham, Kent, Dr. Lancelot Wills, of Bristol, to Margaret Townend, of Harrietsham.

EDS. { E. S. / M. J. McA.

GUY'S HOSPITAL GAZETTE

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PASSIM

IT has been rightly said that this is the age of advertising. Whichever way one turns in these days one is confronted with some aspect of this cult, which, though ancient in origin, has only in the last half-century assumed such immense proportions. And the medical profession, though it itself has remained, of necessity, practically immune, yet the many allied concerns which depend for their existence on the profession are amongst the most zealous advocates of this method of bringing their wares before the public. As soon as one is qualified this is brought to one's notice in no uncertain manner by the circulars and samples with which one becomes immediately inundated, and which at first are so flattering to one's vanity. These, of course, are the crude and obvious ways of advertisement, and although doctors do not stoop to such methods, yet it has been said that they bring themselves into the limelight by subtler means, which are equally, if less dramatically, effective.

Nor are doctors the only sinners in the medical world in this respect—it has even spread to hospitals. Presumably, the more a hospital is brought before the public, whether it be in the daily press or by the excellence of its football team, the better for the funds of that hospital, and in these days, when the voluntary system is so hard put to it for existence, surely any means short of criminal justify the end. But it has always remained a mystery to us how dramatic incidents in hospital routine manage to find their way into the daily press, where we are told, with a flood of irrelevant detail, a mass of what appear to be obvious inaccuracies. Presumably no hospital welcomes such unsolicited testimonials, which are inclined to make them appear rather ridiculous to their colleagues, and although this Hospital has been more or less exempt from such favours in recent years, yet are we not equally likely to come under the eye of the marauding reporter and can nothing be done to stem the tide of his prolific, though not unkindly, pen?

THE Residents' Ball was held at the May Fair Hotel on Friday, January 27th, where Mrs. Fagge received a record number of over 400 guests. The music was provided by Ambrose's Band, and he himself was persuaded to attend in person, which contributed in no small degree to the success of the occasion. Although influenza unfortunately deprived us of the company of certain members of the Staff, several others were present, who seem to have enjoyed the evening. It was generally agreed to be one of the most successful dances held in recent years.

THE Guy's Hospital Old Epsomian Club held an inaugural dinner at the Bridge House Restaurant on Friday, January 20th, at which the attendance was extremely gratifying. It is hoped to make this an annual function and that it will be equally well attended in the future.

WE would remind our readers that the annual subscription to the *Gazette* and *Directory of Guy's Men (Medical and Dental)*, 12*s*. 6*d*. post free, is now due, and should be forwarded to the Manager, The *Gazette* Office, Guy's Hospital, S.E.1.

IT never occurred to us the other night as we sat in a College sitting-room crouching over a tiny gas fire, which was vainly trying to warm the icy current that swept from window to door, that anyone in their senses could call this a life of comfort, luxury and ease, or that there were any residents who were not only not positively

grumbling, but were actually proud to show you how comfortable they were. As it happened, there was a great surprise in store, and it came, as you would expect, from the newest among us. A Clinical came in and, seeing the huddled form, invited us to stretch our legs and warm the frozen periphery in the new Clinicals' Room. He seemed to be so proud about it all that we just had to follow him, though somewhat doubtfully, to the Medical Block; and it was well worth it, even though it aroused such bitter feelings of envy and jealousy.

Though the approach remains as ever it was, no sooner had we got inside the door than our feet sank into a warm carpet, and we lost our breath as we realised that this was now one of the warmest spots in the Hospital. An electric stove was blazing in one corner, the radiator was actually working in another, curtains shaded the windows, and, most wonderful of all, the row upon row of chilly tiles that used to line the wall and gave the opportunity for such unfavourable comparisons had entirely given place to a whitewash of soothing cream. Pictures are to adorn the walls, and a library of books by Guy's men is being collected. A real antiquity has been lost with the installation of new windows. Was there ever anywhere else where you could find such huge windows, which, as you opened them, managed to swing one half of their bulk back at you and so successfully blew a draught down everybody's neck? No wonder that Clinical was so pleased with himself.

What Dr. Hurst has so successfully arranged in the case of the Clinicals' Room may inspire further efforts in other spots in the Hospital.

Perhaps the Dressers' Room may soon recover from its dilapidation, even though it be only in the matter of some more chairs with a back and four legs; we may even yet hope that the idea of providing a room for the O.P.O.'s in the Surgery may be rescued from the limbo of forgotten things.

Obituary

COLONEL VINCENT J. CRAWFORD

WE regret to announce the death of Col. Vincent J. Crawford, D.S.O., late R.A.M.C. He was the second son of Sir Thomas Crawford, K.C.B., a former director of the Army Medical Department.

Colonel Crawford was born in 1877 and studied at Guy's Hospital and elsewhere. He was commissioned in the R.A.M.C. on July 27, 1899, and served in the South African War, 1900-02, taking part in the operations in the Orange Free State and in the Orange River and Cape Colonies. For his services he was awarded the Queen's and the King's Medals (with two clasps each), and was promoted to the rank of Captain. In February, 1903, Captain Crawford married Miss Ethel Beck, who died at sea early in 1914. He was promoted to the rank of Major in 1911, and served in the European War from 1914. In March, 1915, he became Lieutenant-Colonel, and a month later was mentioned in despatches and awarded the Distinguished Service Order "for services in connection with operations on land." A year later he was again mentioned in despatches. On St. Patrick's Day, 1917, Colonel Crawford married Miss Eileen K. Jackson, daughter of the late Mr. Samuel Kidd Jackson and Mrs. Jackson, of Cara, Clones, County Cavan. He retired from active service in 1927 and settled at Braintree, Essex.

Use and Abuse of Toes

By C. Lambrinudi, Esq., F.R.C.S.

(By kind permission of "The Post-Graduate Medical Journal.")

IN this article I want to state the case for the toes; the attention of the public, both lay and medical, has for too long been concentrated on the arches of the feet alone.

The toes are designed to perform *two* functions, *prehensile* and *ambulatory*, and because of this their structure and musculature are more complicated than appears on the surface.

The mechanism of the foot is that of a lever of the second order with the fulcrum at the metatarsal heads, and for any system of levers to work efficiently the fulcrum must be stable and the lever rigid.

When walking on soft, crumbling soil, it is easier to progress barefooted because the toes can grip the ground and stabilise the fulcrum, but for ordinary walking on a firm, smooth surface, the necessity to stabilise the fulcrum no longer exists.

The important consideration, then, is *how to prevent wear and tear of the fulcrum from constant use;* for it is a matter of common knowledge that when all the weight constantly falls on the meta-

tarsal heads, metatarsalgia, in varying degrees of acuteness, inevitably occurs.

To avoid this Nature has devised a method of enlarging the area of the fulcrum which operates effectively at whatever height the heel is raised from the ground.

no phase of an ordinary walk do the toes ever flex.

The best way to understand the function of this muscle is to regard the toes as the fixed point.

Diagram 2 shows that its tendon passes under the metatarsal head, and if the toe is straight and

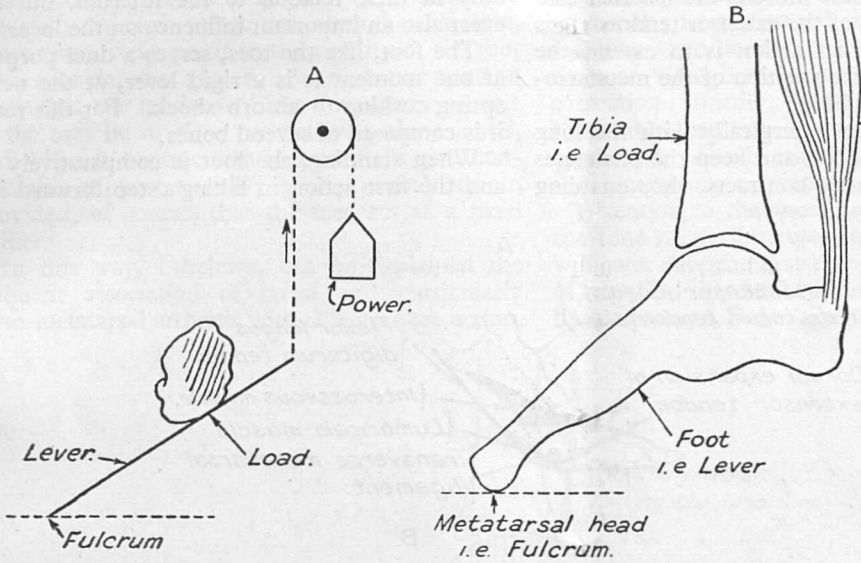

DIAGRAM 1.

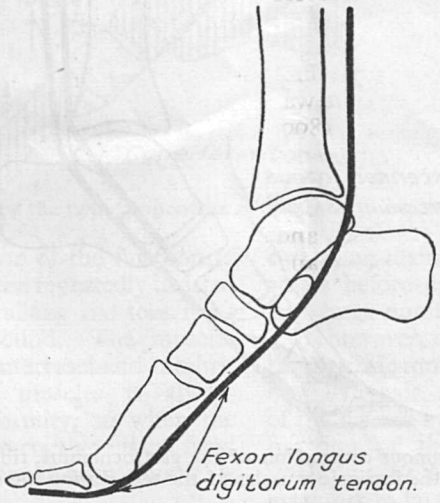

DIAGRAM 2.—Showing its supporting, sling-like action, to the metatarsal head; also its close proximity to the tarsal bones and tarso-metatarsal joint.

One of the reasons why there is difficulty in understanding toe action is because the names given to some of the muscles which control the toes are misleading. Who can blame a student for thinking that the chief action for the flexor longus digitorum muscle is to flex the toes, when it is called by that name? Yet it is a fact that at

firmly planted on the ground, when the muscle contracts the tendon will support the metatarsal head. It is a sling-like action with the toes as a fixed point.

In this way, when the heel is raised the weight falls not only on the metatarsal heads, but on the whole of the area of the toes as well.

But, it may be asked, how can the flexor longus digitorum contract without flexing the phalanges and causing painful callosities on the tips to appear?

A schematic representation of the arrangement of the intrinsic muscles of the toes is shown in diagram 3. Since these muscles are inserted into the dorsal expansion of the extensor tendons, it is evident that their chief action is to extend the phalanges whatever the position of the metatarso-phalangeal joint may be.

Moreover, they act synergically with the long flexor muscle of the toes, and keep the phalanges straight while the latter contracts, thus enabling with the flexor muscle, the latter demands a reflex inhibition of the intrinsics, because without this it would be impossible to flex the toes and grip the ground. This is an important consideration in treatment.

So far, the action of the toes has been considered only in their relation to the fulcrum, but they exert also an important influence on the lever.

The foot, like the toes, serves a dual purpose: at one moment it is a rigid lever, at the next a spring cushion to absorb shock. For this reason it is composed of several bones.

When standing, the foot is comparatively flat, and the first action in taking a step forward is to

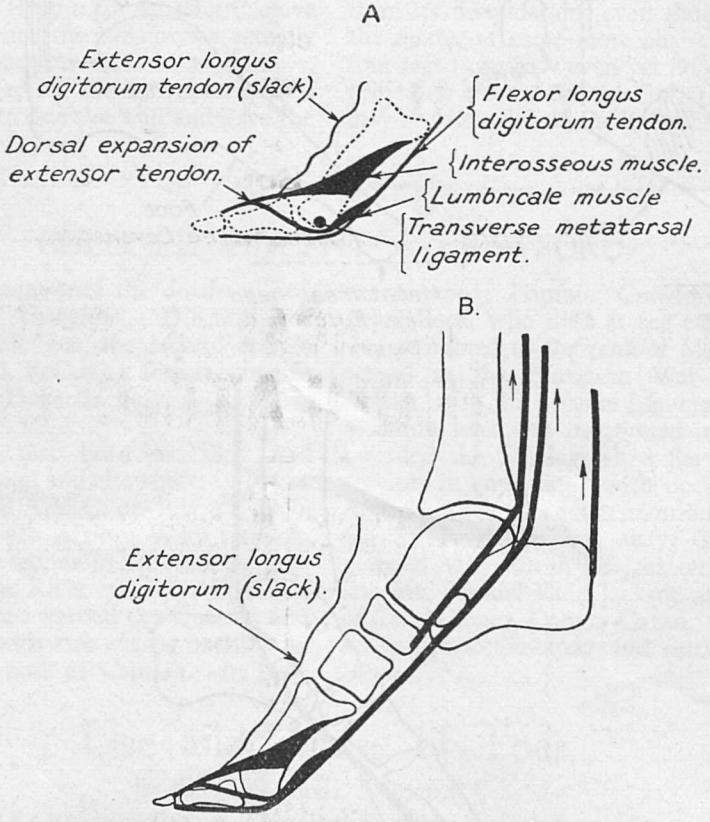

DIAGRAM 3.—Showing synchronous contraction of the gastrocnemius, tibialis posticus, flexor longus digitorum, and the intrinsic muscles of the toes during the step forward.

it to perform its threefold function of supporting the metatarsal heads, enlarging the area of the fulcrum, and giving spring to the gait (diagram 3B).

The reflex mechanism controlling the action of the toes is, therefore, very complicated, and necessarily varies according to whether the toes are performing their ambulatory or prehensile function. For, whereas the former function requires the synchronous contraction of the intrinsics form an arch, for it is only in this way that the foot can be converted into a rigid lever. The tibialis anticus lifts up the arch, and the peroneus longus and the tibialis posticus lock the mid-tarsal joint, the former acting on the calneo-cuboid and the latter on the astragalo-scaphoid joints. Thus the lever consists of two parts, the metatarsal bone anteriorly, and the os calcis, astragalus, scaphoid and cuboid, locked together as one bone, pos-

teriorly. These two elements are joined through the medium of the tarsal bones. With the exception of the first, the cuneiform and the metatarsal bones have no powerful muscles inserted into them; they are attached to the scaphoid only through extensions of the tendinous insertions of the tibialis posticus into the scaphoid tubercle. However powerful these tendinous extensions may be, they will, if subjected to long-continued strain, eventually give. The tarsal and especially the tarso-metatarsal joints do, therefore, constitute a weak point in the rigidity of the foot when considered as a lever. But diagrams 2 and 3B show that the tendons of the long flexor muscle of the toes lie in close proximity to these joints, and when it contracts the tendons do give considerable support to this potentially weak region, provided, of course, that the toes act as a fixed point.

In this way, I believe, can be explained the frequent association of tarsal and particularly tarso-metatarsal arthritis with defective toe action.

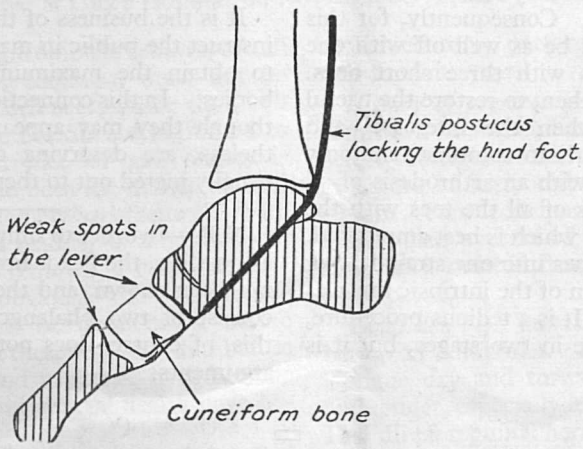

DIAGRAM 4.—To show the two components of the lever joined together by the tarsal bones.

Throughout this description of the function of the toes, the point that has been repeatedly insisted upon is that for ordinary walking the toes must be straight and on the ground. The muscles responsible for this are the interossei and lumbricales. Weakness of these muscles is always followed by a claw-toe deformity, so when the flexor longus digitorum contracts there is no fixed point, and the useful power of that muscle is wasted.

Peroneal muscular atrophy, or abortive forms of this disease, and infantile paralysis are the most frequent neurological causes of the claw-toes, but by far the commonest factor in the production of defective toe action and fixed deformities is the disuse atrophy of the muscles consequent upon the cramping of the toes into short shoes and socks.

From the point of treatment, therefore, the only important consideration is whether and to what extent the muscles are capable of re-education and development.

There are three stages in the evolution of toe deformities, from whatever cause. Firstly, the appearance of corns, either on the tips of the terminal phalanges or on the dorsum of the proximal interphalangeal joints; secondly, the inability when barefooted voluntarily to straighten the toes, though there is no resistance to passive correction; thirdly, the fixation of the deformity by contractures of ligaments and tendons, the appearance of callosities under the anterior arch, and metatarsalgic symptoms.

Attention to the shoes and exercises to restore the tone of the interossei and lumbrical muscles will soon cure the first two stages, but in the case of the third the deformity must first be corrected by tenotomy of the extensor tendons, and the correction maintained by suitable means for a few weeks before useful exercises can be performed. In a large number of cases this will suffice.

If, however, this stage has persisted for too long, the intrinsic muscles of the toes will have atrophied beyond repair, in which case the mere correction of the deformity will not be enough to restore the function of the toes, and the deformity and symptoms will undoubtedly recur. Something more has to be done.

The operation of transplanting the tendons of the extensor longus digitorum into the metatarsal heads has been recommended. It is based on the untenable assumption that this muscle, when inserted into its new position, will lift up the anterior arch. Except as a voluntary action,

opposing muscles do not contract synchronously; the flexors and the extensors of the toes are opposing muscles, and the mere accident of an altered insertion will not make them otherwise. Consequently, the extensor muscle will be slack when the flexor muscle contracts; the former muscle, therefore, cannot exert any influence whatever on the anterior arch during the step forward. This operation acts as a palliative to prevent repair of the extensor tendons after tenotomy, but does nothing to restore the function of the toes.

At the beginning of this article it was stated that their structure and musculature were complicated because the toes were designed by Nature to perform two functions, ambulatory and prehensile. The former is, of course, the more important, because in a civilised state the ground on which we walk is for the most part firm, and the surface is always smooth on account of our habit of wearing shoes; further, it has been shown that for ambulatory purposes all that is required of the toes is that they should be straight and firm on the ground. Consequently, for this function alone we would be as well off with one straight long phalanx as with three short ones. The rational procedure, then, to restore the useful function of the toes when the interossei and lumbricals are paralysed is to combine tenotomy of the extensor tendons with an arthrodesis of all the interphalangeal joints of all the toes with the exception of the fifth toe, which is best amputated, in order to convert the toes into one straight long phalanx, so that the action of the intrinsic muscles can be dispensed with. It is a tedious procedure, and often has to be done in two stages, but it is well worth doing.

There is yet a fourth stage in the evolution of toe deformities, a late and extremely painful stage, where, in addition to callosities on the toes and under the anterior arch, there exist subluxations and arthritis of the metatarsal phalangeal joints. It is advisable in these cases to attempt to procure relief by palliative measures, such as by special boots and supports, because operative interference is usually disappointing.

From the foregoing it will be realised that it is impossible to have perfect action of the foot unless the toes have free play and are under adequate muscular control.

Even in this short article, which was intended primarily to draw attention to the function of the toes, it was found necessary to refer to the structure and function of the arches of the feet as well. It is irrational to lay stress upon the importance of one part of an organ to the exclusion of another, yet for years, in regard to foot matters, the public, both lay and medical, has adopted this pernicious habit and has concentrated its thought almost entirely on the arches of the feet alone.

It is the business of the medical practitioner to instruct the public in matters of hygiene, and how to obtain the maximum efficiency out of their bodies. In this connection, small and insignificant though they may appear to be, the toes, nevertheless, are deserving of more respect than is usually meted out to them.

N.B.—In order to simplify the diagrams as much as possible, the flexor brevis digitorum muscle has not been shown, and the toes have been made to consist of two phalanges instead of three. But this, of course, does not alter the validity of the arguments.

Reviews

Epidemic Diseases of the Central Nervous System. By ARTHUR SALUSBURY MACNALTY, M.A., M.D. (Oxon.), F.R.C.P., D.P.H. Published by Messrs. Faber & Faber. *Price 5s.*

THIS book, the scope of which is to consider from the epidemiological standpoint the three diseases, cerebro-spinal fever, acute poliomyelitis and encephalitis lethargica, is a cheap edition of one published in 1927, in which the author presented in an expanded form his Milroy Lectures for 1925. There is a foreword written in 1932 giving an interim account of the epidemic behaviour of the diseases discussed.

After some introductory chapters in which he deals with the steps which led up to the recognition of the epidemic nature of these diseases, the author takes each in turn and describes its history and its epidemiological features in a clear and concise manner.

This book, which is of obvious use to those who come into contact with the problems of these diseases in medical practice, may be recommended also to students. It conveys much interesting information and forms an introduction to epidemiology, a subject of which the average student knows nothing but the name, and which he is very apt to avoid.

Ante-Natal Advice to the Expectant Mother. By G. T. BIRDWOOD, M.A., M.D., D.P.H. Published by Messrs. John Bale, Sons & Danielsson, Ltd.

IN this volume the author presents a wealth of good advice to expectant mothers, in the form of 50 short talks designed primarily for hard-working women attending Welfare Clinics. Most of the talks are short, conveying one main fact to impress upon the maternal mind, and the whole book aims to make the mother take a sane, commonsense view of pregnancy, ignoring foolish superstitions and old wives' tales, but not disregarding the dangers and possible complications of the condition.

The book is certain to be of great value to expectant mothers and to doctors and nurses attending them, and its occasional repetitions and perhaps too simple language may readily be forgiven in view of its undoubted worth and utility.

A Text-book of Medicine for Nurses By E. NOBLE CHAMBERLAIN, M.D., M.Sc., M.R.C.P. *Price* 20*s*.

THIS most comprehensive text-book of medicine for nurses sets forth in a very attractive way all the interesting and helpful facts regarding the medical diseases with which a nurse may come in contact. The chapter on infectious diseases is specially good, and the illustrations are splendid. The book is up to date and the appendices, which deal with clinical investigations, diet and drugs, give it an added practical value

Recurrence of Gall Stones after Operation

A Clinical Lecture delivered at Guy's Hospital, on 1st December, 1932, by R. P. Rowlands, F.R.C.S., M.S.

GENTLEMEN,—Incomplete removal of gall stones, which is common, must not be mistaken for recurrence. After thorough radical operations, while the disease is limited to the gall bladder, recurrence of gall stones is fortunately very rare, and both the immediate and ultimate results are extremely satisfactory. With few exceptions, the gall bladder is the factory of gall stones, therefore its removal, if it can be done without undue risk, is obviously the operation of choice, and this should be done early, before stones have migrated to the bile ducts, and before these ducts, the liver and pancreas, have become infected, or the heart and general health have become seriously affected.

I shall now tell you of three cases of so-called recurrence recently under my care at Guy's. In at least two of these the evidence is almost conclusive that stones were left behind at the first operation, and in the remaining case it is probable that grit was left in a septic bile duct. I am indebted to my House Surgeon, Mr. Crowther Smith, for the abbreviated notes of these cases.

CASE 1. RECURRENT STONES IN THE COMMON BILE DUCT.

Mr. C., aged 59 years. Admitted on 16th October, 1932, for severe pain in right hypochondriac region, with fever and jaundice.

Past disease.—In June, 1928, operation for cholelithiasis. Large abscess in right rectus containing gas and stones. Cholecystectomy and choledochotomy performed. Remained perfectly well for four years.

History of present disease.—Twelve days before admission he was suddenly seized with acute pain below the right costal margin. Pain was colicky in nature at first, and radiated to both scapular regions. Pain accompanied by rigors and vomiting. Patient had pyrexia of 100-103° for several days, and was jaundiced from onset of attack. Patient constipated.

Condition on admission.—Patient was much better on admission. Slight jaundice. No pain. Tongue dry and furred. Upper abdomen rigid and tender, especially in the right hypochondrium. Had direct inguinal hernia and hernia at linea alba. Patient had two rigors the day after admission, and was operated upon four days later, after being carefully prepared.

Operation.—Kocher's incision. Choledochotomy performed. White bile. Large friable stone removed from the dilated common duct, and many small stones from the hepatic ducts. Large probe passed easily into duodenum.

Result.—Suppression of bile after operation. Corrected by 10 pints of 10 per cent. intravenous glucose. Patient remained better for one week. Then developed right submaxillary adenitis, and left parotiditis. Both incised. Pus found in right submaxillary region. Patient's condition became worse. Cholæmia developed. Condition aggravated by enlarged prostate, which produced retention, cystitis, and ascending renal infection.

Patient given continual intravenous glucose 10 per cent., and so was kept alive for 13 days. Patient died a month after the operation.

Post-mortem examination.—Obstructive biliary cirrhosis. Deep jaundice and cholangiectasis. Thrombosis of portal vein. Generalised peritonitis. Drainage track lined by slough. Bilateral infection of whole of renal tract. Enlargement of middle lobe of prostate.

Looking back upon this case, I think it would have been wiser to operate earlier, and not to wait so long, and as it proved in vain, for the fever to subside.

CASE 2. RECURRENT CHOLECYSTITIS WITH GALL STONES.

M. E. S., a woman, aged 57 years. Admitted for attacks of pain in epigastrium on 13th November, 1932.

Past diseases.—In 1913 was operated upon for cholecystitis. Cholecystostomy performed. 19 stones withdrawn from gall bladder. Appendicectomy also.

History of present disease.—Patient has had attacks of epigastric pain, starting about one month after the operation in 1913. She has had many attacks since, each lasting about three or four days. The attacks are characterised by pain which starts in the right hypochondrium and radiates to the umbilicus, right loin and back. There is also severe diarrhœa, anorexia and insomnia, but no nausea during attacks. No history of jaundice. In February, 1932, she asserts that she passed a gall stone "into the bowel," and that in June she passed it per rectum. Has urinary incontinence. Multipara, 17 children.

Condition on admission.—Well covered, rather obese individual. No present symptoms except tenderness in gall bladder region. X-ray showed appearance suggestive of gall stone. Patient had attack of pain immediately preceding operation.

Operation.—Kocher's incision. Cholecystectomy. Several large and many small pigment stones found, one of which obstructed the cystic duct.

Result.—Uneventful recovery. It seems evident that all the stones were not found and removed at the first operation.

CASE 3. STONE IN THE COMMON DUCT, NOT FOUND AT FIRST OPERATION.

M.P., a woman, aged 42 years. Admitted for pain in right costal margin on 23rd July, 1932.

Past diseases.—In January, 1931, cholecystectomy. Gall bladder contained purulent fluid and gall stones. Convalescence delayed by slight attack of heart failure.

History of present disease.—Free from symptoms after operation until November, 1932, when attacks of pain and vomiting recurred. Pain sudden in onset, colicky in nature, and lasts one hour. Three attacks. Vomits each time. No jaundice. Slight hæmaturia.

Condition on admission —Tender in gall bladder region. Otherwise no present symptoms.

Operation —Large stone in common bile duct removed. No stenosis. Large number of very small stones removed from bile ducts. Choledochostomy performed and appendicectomy.

Result.—Uneventful recovery.

ÆTIOLOGY OF RECURRENCE

Unless the gall bladder is removed, the original causes of cholelithiasis persist. The most important of these are infection of the walls of the gall bladder, and the stagnation and great concentration of bile which takes place in the gall bladder. Infection of the gall bladder walls is nearly always a necessary preliminary to the formation of gall stones, and unfortunately this infection often persists after drainage of the gall bladder, and may spread to the bile ducts, where it may cause the deposition of stones later on. It is possible, although debatable, that some pure cholesterin stones form in the absence of bacterial infection. Stagnation of bile in the gall bladder is very commonly due to partial or intermittent obstruction of the cystic duct, by kinking or torsion, as I have demonstrated during numerous operations. Cholecystitis and stones are almost certain to develop behind this obstruction sooner or later.

After cholecystostomy, and especially cholecystotomy (where the gall bladder is immediately closed after the removal of stones), recurrence of symptoms is to be expected in the majority of patients who survive for some years; therefore secondary cholecystectomy is frequently required after these operations. By carefully following up a large number of patients for many years, it has been shown by numerous observers that complete freedom from symptoms follows only about 45 per cent. of cholecystostomies; whereas perfect freedom follows over 85 per cent. of cholecystectomies.

At first, and perhaps for some years, the results of drainage of the gall bladder after carefully removing as many stones as can be found, appear to be satisfactory; but it may take a long time for gall stones to reform, or for those left behind—as they frequently are—in the gall bladder or cystic duct to cause symptoms severe enough for the patients to ask for another operation. Last year I had to remove the gall bladders of three women suffering from intolerable recurrent symp-

toms, 20, 25 and 30 years after cholecystostomy had been performed, and had been followed by good health for some years.

After complete cholecystectomy, recurrence of gall stones is extremely unlikely, but stones in the common bile duct may have been overlooked at the first operation. This is not a true recurrence. Great care is required to examine the common bile duct for stone or dilatation in every case, whether jaundice has or has not occurred, for one or more stones may be present in the common bile duct for years, and even cause biliary colic without jaundice, unless the impaction lasts several hours. The first gall bladder I removed contained 99 stones, but I overlooked one in the common bile duct, and had to remove it four years later, when jaundice had at last appeared, to explain the cause of the frequent attacks of colic.

But all cholecystectomies are not complete; some of the gall bladder is not uncommonly left behind in difficult cases, with many adhesions obscuring the intricate anatomy of the dangerous area of the portal fissure, where there is always a fear of removing too much and doing irreparable injury to the bile ducts.

On at least three occasions I have had to remove portions of the gall bladder left behind under these circumstances and causing stones to form in later years. It is easy for the inexperienced to mistake the waist of an hour-glass bladder for a dilated cystic duct, and to leave behind the proximal pouch, and cystic duct embedded in adhesions, and perhaps intimately adherent to and overlapping the main bile ducts. Occasionally two gall bladders or a bifid gall bladder may be found not only in cats, but also in human beings; but an hour-glass deformation is, I believe, easily mistaken for these rare abnormalities.

Sometimes too much of the cystic duct is left behind, often containing small impalpable stones obscured by the thick, inflamed wall of the duct, or new stones may really form in the *cul de sac* of the cystic duct left behind. It is almost impossible to be sure of removing all stones from the cystic duct, without removing the duct itself. On one occasion I asked an experienced assistant to palpate the cystic duct for stone; he felt none, and I agreed, but after removing the thick-walled duct we found six small stones in it.

After-Choledochostomy, which is usually required only in late cases, with widespread infection of the bile ducts as well as of the gall bladder, recurrence—or apparent recurrence—of stone is naturally to be anticipated in some cases. Stones or grit may be left behind either in pockets in the main bile ducts or in one of the dilated smaller ducts in the liver. Moreover, recurrent stones are to be expected when the gall bladder has not been removed. These stones, formed in the gall bladder later, pass on into the common bile duct. Unfortunately, it is not always safe to remove the gall bladder during choledochostomies undertaken in late cases of common duct disease, especially with jaundice, fever, or deficient liver function. Moreover, the infection usually present in the bile ducts in these late cases is very difficult to eradicate even by prolonged drainage and antiseptic treatment; therefore, new stones may be deposited in these infected ducts, or their small tributaries in the liver. Stones may also form in the infected pancreatic ducts, and pass on into the common bile duct.

Stricture of the bile ducts may follow ulceration from long impaction of stones in them, or may be due to damage during operations. These strictures are potent causes of recurrence of stones. But stones or grit left behind are the usual causes of so-called recurrence in the common duct. At most autopsies after common duct operations one or more stones and grit are found in the bile ducts. Unabsorbed ligatures or sutures may form the nuclei of recurrent gall stones, but unabsorbable material ought to be avoided at operations upon the bile tract.

In conclusion, delay before operation, and incomplete operations (especially leaving the gall bladder, or part of it, behind) are the chief causes of recurrence of gall stones after operation. More stones are overlooked and left behind than recur after cholecystectomy.

DIAGNOSIS

Cholecystography may confirm the suspicions of stones in the gall bladder, but, so far, I have had no help from it in diagnosing stones in the common bile duct.

Recurrent symptoms of gall-bladder disease are not by any means always due to stone. They are frequently due to cholecystitis, and occasionally to adenoma, papilloma or carcinoma of the gall bladder, which may have been overlooked at the operation, or may develop at any time if the gall bladder has been left behind when the stones were removed.

Sometimes symptoms thought to indicate recurrent gall stones have proved to be due to a diseased and, perhaps, high appendix, which should have been removed at the first operation. Sometimes they are caused by adhesions constricting the duodenum or colon. Recurrence of stones in the common bile duct generally cause characteristic symptoms, such as biliary colic, associated with, or followed by, jaundice, and often with fever and

perhaps rigors. There is usually some fulness and marked local tenderness in the epigastrium over the course of the common bile duct.

Sometimes mild degrees of these symptoms prove to be due to cholangitis, or to dilatation of the common bile duct, perhaps with spasm of its sphincter, or to chronic pancreatitis. Care must be taken not hastily to undertake exploration in doubtful cases of this nature, without careful investigation of the duodenal bile, and without thoroughly trying medical treatment, especially belladonna, biliary antiseptics, and Epsom salts.

TREATMENT OF RECURRENT GALL STONES

(1) *In the gall bladder or cystic duct.*—It is rarely wise to waste time on palliative treatment. A Kocher incision, parallel to the right costal margin, and an inch below it. Above, the usual vertical incision used at the first operation gives the easiest access to the gall bladder, and avoids most of the old adhesions which may be so troublesome in these cases. The gall bladder is found and removed in this way with less difficulty than is anticipated, and the operation is often almost extraperitoneal, the old adhesions making it so. In every case the common bile duct is carefully examined for stone, and, if necessary, opened and a large probe passed through it into the duodenum.

(2) *Recurrent stones in the common bile duct.*—When the diagnosis is established, an operation is indicated, and is, whenever possible, best undertaken soon, but in a quiet period between the characteristic attacks. It is usually much safer to wait until colic, jaundice and fever have abated, and especially until the patient has been most carefully prepared, with the object of combating the deficiency of liver and renal functions, which are commonly found, and are great dangers in these late cases.

Sometimes waiting does not bring the expected quiet interval, but jaundice, fever and wasting continue indefinitely. Then it is difficult to wait, for the prognosis is grave whether an operation is done or not done. Sometimes we have to advise operation in the hope of snatching the patient from the jaws of death. Under these circumstances, the best chance is given by rapidly opening and draining the common bile duct, deferring more radical measures until the crisis has passed, as the result of giving vent to infected bile; and feeding up the patient, and especially giving him large quantities of glucose intravenously and in other ways.

OPERATIVE RESULTS

Because I have been drawing your attention to-day to recurrence and death following operations for recurrent gall stones, I think it necessary to conclude by dwelling on the other side of the picture, and to state definitely that the results of operations upon the gall bladder and bile ducts, performed by good surgeons well trained in this special work, are very satisfactory, and compare favourably with those obtained in any other branch of surgery.

MORTALITY

About a year ago I carefully analysed the results of 666 operations performed by me upon these parts, the operations naturally including a good many undertaken for so-called recurrent stones following cholecystostomies. The death rate is surprisingly low, considering the complicated nature and difficulties of these operations. My results during the previous 20 years were as follows: The mortality in 434 cholecystectomies was 1.6 per cent.; in 116 cholecystostomies, 18 per cent.; and in 116 choledochotomies, 12 per cent.

The death rate of cholecystostomy is much higher than that of cholecystectomy, because this operation is reserved for bad and late cases. Similarly, the mortality of choledochotomy is naturally high, because the patients requiring it are often bad subjects, who have suffered for many years, who have developed complications such as secondary heart disease, cholangitis, hepatitis, or pancreatitis, and who are peculiarly liable to hæmorrhage; above all, they are apt to suffer from hepatic insufficiency, nephritis and pneumonia. Many of these cases are too late for the best results to be obtained. If they come reasonably early the mortality ought not to be above 5 per cent., but it may be as high as 35 per cent. when infective or suppurative cholangitis has supervened.

ULTIMATE RESULTS

Cholecystostomy affords complete and permanent relief of symptoms in only about 45 per cent. of cases. The persistence of recurrence of symptoms is often due to stones left behind, to the persistence of inflammation in the walls of the gall bladder, or to the formation of new stones. Secondary cholecystectomy or choledochostomy is often required.

Cholecystectomy affords complete and permanent relief in about 86 per cent. of cases.

Correspondence

The Students' Club and Mudie's

To the Editor of the GAZETTE

SIR,—May I draw the attention of the members of the Students' Club to the facilities for obtaining reading matter from Mudie's Library?

The Club subscribes annually to Mudie's for 20 volumes, which can be changed through Mr. Andrew, the Wills librarian.

As the demand for the use of these subscription rates has been increasing recently, the Committee has made the following rules :—

1. That a member may not make use of the subscription for longer than one year if there be another member awaiting these facilities.

2. If a member change not his book within a month, after due warning from the librarian, he shall forfeit his privilege in favour of the next waiting member.

Thanking you for giving publicity to this letter.

Yours, etc.,

D. W. C. NORTHFIELD,

Hon. Sec., Students' Club.

Guy's Hospital,
S.E.1.

Sport

Association

Guy's v. Westminster College

ON Wednesday, 18th January, 1933, Guy's played Westminster College and were beaten by 2 goals to 1.

Unfortunately, our opponents went to the wrong station, and consequently were late in arriving. This delay only allowed for 30 minutes' play each way.

In the first half Guy's started off with a rush, but poor finishing prevented them from scoring when they had the goal three or four times at their mercy. Just before half-time, following a scrum in the goal mouth, Colbert netted the ball from close range.

The second half was characterised by the ragged and uneven play it produced. Westminster added two goals, mainly by the efforts of their wing men, who were not held in check by the Hospital halves.

At this point the game went from bad to worse, and it finished in a manner that would have disgraced any team. The team must remember that the main object of football is to play the ball and, if possible, put it into the opponents' goal. It is only fair to our opponents to say that we were deservedly and thoroughly beaten.

Team.—F. J. R. Stoneham; R. Lawson, D. Priestley; G. M. Johnson, S. E. Osborne, R. L. V. Henderson; E. O. Clough, R. Harvey, W. Groom, G. C. Sprigins, J. C. Colbert.

Guy's v. St. Catherine's College, Cambridge

PLAYED at Honor Oak Park on Saturday, 21st January, and resulted in a win for the Hospital by 4 goals to 2.

Owing to a misunderstanding, one of the players did not arrive, and so a local youngster was incorporated in the team. He played exceedingly well throughout and scored two of the Hospital's goals.

Directly from the kick-off Guy's started attacking, and several bright movements were only just cleared by the College defence. Play was now mostly in the midfield, where both sets of halfbacks tried to get their forwards going. Harvey secured from a forward pass and, beating the backs, scored a very good goal. No sooner had the game recommenced when the Hospital outside-right lobbed the ball over the goalkeeper's head as he came out to tackle. The College now began to see more of the game, and several movements were spoilt by offside play. Their efforts, though, were rewarded when the centre-forward netted following a scrimmage in the goal-mouth.

Just before half-time Colbert, following a nice run down the left wing, put the Hospital further ahead. Half-time, 3—1.

Guy's were very slow in getting off the mark in the second half, and it was not until the College had added another goal that they returned to their form of the earlier part. The forwards were always dangerous, although bad shooting was to be seen more often than necessary. The Hospital outside right ended the game by scoring from a very sharp angle.

Team.—F. J. R. Stoneham; R. Lawson, D. Priestley; G. M. Johnson, C. A. Boucher, R. L. V. Henderson; A. N. Other, R. Harvey, W. A. Groom, G. C. Sprigins, A. J. Colbert.

1st Round Inter-Hospitals' Cup
Guy's v. St. George's

ON January 26th Guy's met St. George's on the Civil Service Sports Ground at Chiswick and were defeated by 2 goals to 1.

The ground was thoroughly frozen and ball control was naturally difficult, but the pitch had a good surface and the game was very fast throughout. Guy's settled down at once and started at a great pace, so that St. George's were put on the defensive and only over-eagerness prevented the Guy's forwards scoring from one or two good passes early in the game. They were rewarded after 20 minutes' play when T. E. Mitchell, who was well placed on the front of the circle, took an excellent pass from C. A. Clarke, playing on the right wing, and shot hard, giving the goalkeeper no chance. No further score resulted in the first half, and half-time found Guy's leading by 1—0. The Guy's halves played up well in this half and, thanks to them, the backs and goalkeeper were not greatly troubled.

In the second half St. George's were more together, and with the wind behind them they began to press hard. Once on the offensive their forwards were given strong support by V. H. Wilson at full-back and Theophelus at centre-half.

Guy's, however, still put in an attack now and then, and one good run by J. B. Franklin on the left wing should have resulted in a goal had not the ball been over-run. Several corners were conceded by both sides at this stage, but none were taken advantage of, mainly owing to the difficulty of stopping the ball "dead." With about 10 minutes to go the St. George's right wing got clear away, and E. Allen finished off a clever run with a stinging shot which E. A. Mayston, though getting his hand to it, was unable to divert.

With the scores level, St. George's made terrific efforts to take the lead and, after several scraps in the Guy's circle, they scored through their left wing, Robinson. A few minutes later the whistle went for no side, and a most enjoyable game was over

At one time it looked as though Guy's had the game well in hand, and, although another goal or two when they were pressing would have made the issue certain, they might still have won but for a general slacking off in the second half.

Team.—E. A. Mayston; D. P. King, A. W. Turner; R. G. Archer, A. G. Richmond, H. B. Smith; C. A. Clarke (Capt.), L. N. Trethowan, T. E. Mitchell, J. W. Dryland, J. B. Franklin.

Guy's II v. London II

THE first round of the Junior Inter-Hospital Association Football Cup was played at Honor Oak Park on January 26th.

Cosin lost the toss and Guy's kicked off with a strong breeze behind them, but facing an equally strong sun.

The ball was immediately put out to the right, where Musgrove centred after a sparkling run along the wing, only for the ball to go out of play. Guy's continued to press hard, and, after Kendrick had put in a fast shot, Musgrove, following up and catching the goalkeeper in possession, so harassed him that he dropped the ball, enabling Musgrove to score.

London were having very little of the game, and Cosin finished off some neat mid-field dribbles by putting Jones-Lewis well away on the left, but the attack seemed unable to round his centres.

After play had been in progress for 20 minutes Keay secured in mid-field, beat two men and passed out to Musgrove, who, proving yards faster than the opposing defence, put in a good pass, from which Kendrick had no difficulty in scoring.

Half-time—Guy's, 2; London, 0.

As is usual in Cup-Ties, each member of the team consumed 20 grammes of sugar with his lemon, and once again it was noticeable how well the team finished in the last portion of the second half.

Play in the second half was uneventful, with Guy's attacking continuously. Keay and Musgrove combined well, and the latter was conspicuous by the way he repeatedly ran through the weak opposing defence.

Once again it was apparent how good mid-field work was spoiled by poor finishing. This was probably due to the desire to beat repeatedly a defence quite incapable of performing its task adequately.

The only strong part of the London defence was its goalkeeper, who saved brilliantly shots from Kendrick, Keay and Cosin.

The Guy's defence was but little tested, and proved equal to its task.

The final whistle sounded with no further score.

Result.—Guy's, 2; London, 0.

Team.—F. Rogers; R. Lawson, R. C. Jackson; H. Bradley-Watson, J. Marley, E. Sampson; E. Musgrove, J. C. Keay, W. C. Kendrick, L. Cosin, H. Jones-Lewis.

Hospital Information, etc.

Marriage

GARLAND-WITHYCOMBE.—On December 23rd, 1932, Thomas D. Garland, B.Ch., D.P.H., to Margaret, daughter of Mr. and Mrs. Withycombe, of West End Lodge, Southampton.

EDS. { E. S. / M. J. McA.

GUY'S HOSPITAL GAZETTE

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PASSIM

HOWEVER much the many among us may protest, however much their blood may boil or their spirits rise at the mere thought, there can be no denying that we are all of us nowadays Socialistic in the real sense of the term, and that in keeping pace with the times we are becoming increasingly more and more so. What employers of labour were able to do a generation or two back seems to us now inhuman and at times even barbaric; we wonder how such things could ever have been tolerated for so long, and it brings a feeling of self-satisfaction and pride to realise what a great improvement has been brought about in the general condition of life. In the general advance, progress in medicine has not lagged behind, and with a highly organised and efficient public health service, with more hospitals and clinics, with National Health Insurance, and a growing application of the uses of medicine in industry, the health of the nation has steadily improved and the medical interests of the people are being better cared for.

For anyone, therefore, with strong Socialistic leanings, it must be embarrassing nowadays to look down on the Out-Patient Hall of a large hospital and to see the long hours of waiting that are still often necessary for the patients. Such long waiting is almost an anachronism to-day, and we are glad to see that steps are being taken to see what can be done to obviate it. About a year ago the King Edward's Hospital Fund set up a commission on this thorny problem, and a few weeks ago the report of their investigations was published. They believe that much of the present waiting is due not so much to deficiencies in administration as to gross overcrowding, and recommend that many of the minor ailment cases that now come to hospital could be better dealt with by their general practitioner or at public dispensaries or clinics. We believe that on this point there will be general agreement with the Commission, and feel that even at a teaching hospital a reduction in the number of these cases could be brought about without impairing the teaching facilities. The only danger is that the pendulum should swing too far the other way, and that the hospital service should become purely a consultative one. Quite apart from any sentimental reasons and a due consideration for the purposes for which many of the large hospitals were founded, such a move, we feel, would be a great mistake, benefiting neither patient nor hospital.

On the choice of method for dealing with out-patients the Commission have not been able to decide, and are anxious to collect further evidence. Naturally the appointment system is the one most eagerly discussed. Individual appointments seem to be quite impracticable, but there is a lot to be said for the system that gives appointments in groups. At any rate, old and new cases should come up at different times and not in one glorious rush as we see it happening in some departments at the moment. This means hours of quite unnecessary waiting, and in the case of the O.P.O.'s, Medical Out-Patients, a new case coming just after 10 a.m. may not be seen on a busy day until about 4 p.m. owing to the fact that there are over 100 other patients, old and new, who happened to come a short while before him. On such a day, after a wait of five hours, it is always a surprise to us that more storms do not arise and that there is not an occasional riot. It is not the comfort of the hall that staves it off; is it then the nurses or the refreshments, or merely the comfort of mutual sympathy? The O.P.O.'s, at any rate, seem rather afraid of it, and we have seen them slinking away to a quick lunch with their collars well turned up, not daring to take a glance at the waiting mob. They will need some skill later in

the afternoon to turn the conversation quickly to a discussion of illness as soon as the tired patient enters the room, and to try to avert any reference to the hours that have been spent outside. Luckily, with most patients this is only too easy to do, but every now and then there is a long sigh that seems to spell trouble. To a lesser extent the same trouble is prevalent at the back Surgery, and here again a system which would give appointments for groups of old patients might be well worth trying out.

However, the whole difficult problem is being taken up by the authorities at Guy's, and we wish them success in their efforts to deal with what seems to us a justifiable grievance and one that is not incapable of solution.

WE have recently received two letters from distant parts of the world which demonstrate the love and respect which old Guy's men still have for the Hospital. One of these was in answer to the Treasurer's recent appeal for funds and came from India, from the English residents in a small civil station. As the subscribers, who are chiefly Government servants, have already been hard hit by a cut in income and an increase in the cost of living, this is especially gratifying in view of the by no means inconsiderable sum received.

The second letter comes from a remote corner of Africa and tells us of the christening of the small son of a Guy's man and a Guy's Sister, and whose godmother, also an old Guy's Sister, was present at the ceremony. With such an auspicious start in life we can only hope that the latest recruit will in due course in the footsteps of his forbears.

AN address will be given at B.M.A. house, Tavistock Square, W.C.1, on Tuesday, March 14th, by Wilfred Trotter, Esq., M.S., F.R.S., entitled, "Emergency." The address will be preceded by tea.

THE Guy's Hospital Sailing Club Dinner will be held at the Hotel Jules, Jermyn Street, S.W., on Friday, February 24th. Tickets, price 5*s.* 6*d.*, can be obtained from the hon. secretary.

THERE have been complaints that sufficient publicity has not been accorded to the draw in the Inter-Hospitals' Rugby Cup. As things stand at the moment, Guy's have beaten Middlesex in the first round and are due to meet St. Mary's on Tuesday, February 21st. The winner of this tie will play in the Semi-Final on Thursday, March 2nd, and the Final will be played on Wednesday, March 15th.

AT a Residents' meeting held on Monday, February 13th, Mr. Windsor Lewis was elected President and Mr. Crowther Smith, Vice-President, for the next three months.

History of the Treatment of Apendicitis and Cholecystitis

By J. E. Raaf, Esq., M.D., Fellow in Surgery, The Mayo Foundation

(*By kind permission of the Mayo Clinic*)

IN ancient Greece the belief was common that the gods could effect remarkable cures by the simple laying on of hands. The right hand was considered beneficent, whereas the left hand had a sinister influence.[1]

So far as intra-abdominal surgical conditions were concerned most physicians, until the middle of the last century, were either applying the left hand or were failing to use either. A thrust at the medical profession may be noted in the following poem concerning an 18th-century Quaker physician by the name of Dr. Lettsom :—

"When people's ill, they come to I;
I physicks, bleeds and sweats 'em,
Sometimes they live; sometimes they die;
What's that to I? I Lettsom."

This attitude, attributed to Dr. Lettsom, was particularly prevalent among physicians when conditions affecting the abdomen were involved. Before the advent of antiseptics and anæsthetics patients with appendicitis or cholecystitis were "physicked, bled and sweat." With that treatment they were left to recover or die.

The rise to fame of the appendix has occurred within the last 40 or 50 years. It has always been problematic whether Hippocrates, Celsus, Galen or other ancients ever dissected the human body. Writings of Vesalius imply that Galen did not describe the appendix because he dissected only monkeys, which have no appendices. The first reference to be found regarding this structure was written in 1522 A.D. In that year Berengarius Carpus, professor of surgery at Pavia and Bologna, published a work on anatomy in which he spoke of a certain "additamentum" to be found at the end of the cæcum. Since it is believed that Berengarius Carpus was the first modern physician to practise dissection, it is likely that the observation was original. Vesalius, writing in 1543, described the appendix, and proposed that this structure

should be called " cæcum," inasmuch as that part usually called cæcum was not a cæcum, or blind sac, but has three openings, one each into the ileum, colon and appendix.[2]

Stephanus, two years later, published a work on dissection in which he made no mention of the appendix. However, in his anatomical drawing the appendix was represented as dangling from the cæcum. Fallopius appears to have been the first to compare the appendix to a worm.

Anatomically, the appendix had become recognised by the middle of the 16th century. The function of the organ was still a mystery. One theory was that it acted as a receptacle for fæces during intra-uterine life. Fabricius ab Aquapendente thought its chief function was to hold the cæcum in place. Santorini, in 1724, wrote of having seen fæcal concretions and worms in the appendix, and thought the chief function was to serve as a nest for round worms, where they might be well cared for and thus prevented from escaping into the general intestinal tract.

Clinical observations regarding appendicitis date back farther than knowledge of the anatomy. Hippocrates wrote, " Suppuration upon a protracted pain of the parts about the bowels is bad." This is the first recorded observation of a disease which subsequently for centuries was known as " iliac " or " colic " passion. Many of the abdominal pains observed by Hippocrates were probably other diseases, but that some were instances of appendiceal abscess can scarcely be doubted.

Celsus distinguished between the colic passion, situated in the large intestine, and therefore below the umbilicus, and iliac passion, which affected the small bowel and was situated above the navel. However, the terms iliac and colic passion were used until the end of the 18th century, without any very great distinction being made between the two.

Sydenham, in 1666, supplied the important clinical observation that in the commencement of iliac passion the pain was not fixed, but that later it settled to one spot and remained there. He seems to have had an inkling that the disease characterised by this type of pain was distinctly different in its causation from volvulus, strangulated hernia, intussusception, and all other intra-abdominal conditions.

Even though the clinical picture of iliac passion was being recognised at this time, the pathological process involved was not definitely understood. Heister, in 1753, published the details of a case in which he had performed necropsy in 1711. He had found the vermiform process lying in a small collection of pus among adhesions. This proved, said Heister, that this part can be the seat of inflammation and abscess. This is probably the first instance known in which the lesion was positively stated to be in the appendix. In spite of Heister's observation the theory very much in favour at that time was that suppurative tumours in the right iliac fossa arose from cæcal disturbances of one kind or another. It was thought that inflammation of the cæcum came first, and if the appendix was inflamed it was considered a secondary involvement. Consequently, the term " typhlitis " or " perityphlitis," meaning inflammation of or inflammation around the cæcum, was that given to disease of the right lower quadrant.

In 1827, Mélier, a Frenchman, made a further advance in describing diseases of the appendix. He believed them to be entirely distinct from cæcal trouble, and even went so far as to say : " If it were possible to establish with certainty the diagnosis of this affection, we could see the possibility of curing the patient by operation. We will, perhaps, some day arrive at this result." His views failed to gain acceptance, however, mainly because the most eminent surgeon of the time, Dupuytren, took the contrary position. Dupuytren's contention that suppuration of the right iliac fossa was due to cæcal inflammation well illustrates that " truth is the daughter of time and not of authority."

Gradually a greater number of writers ventured the thought that the origin of disease of the right lower quadrant was the vermiform process of the cæcum. It remained for Reginald H. Fitz, in a publication in 1886, to convince the medical world of this fact. In this article the term appendicitis was first used.[3]

Clinically the appendix was known by Hippocrates, anatomically by Berengarius Carpus, and pathologically by Heister. Appendicitis was first treated rationally in the latter part of the 19th century.

Cures among ancient and mediæval people for iliac passion were varied and extensive. Emetics were given if the pain was above the umbilicus, purgatives if the chief intensity was below. When action of the bowel in such cases was sluggish some physicians caused their patients to swallow leaden pills, in the hope that these might force a way through all obstructions and finally cause satisfactory evacuation of fæces. Even as late as 1883 Pedrini reported three cases of " ileus " successfully treated by causing the patient to swallow five or six bullets and four pounds of No. 3 shot, at the same time using prolonged and repeated insufflation of air by rectum.

Sydenham's favourite application to the abdomen in these cases was the body of a freshly killed

puppy, slit open. In cases in which the pain returned after recovery, or in which symptoms of abdominal discomfort persisted after an attack of iliac passion, he recommended constant horseback riding, to jolt the noxious matters out of the cæcum, where they were prone to accumulate.

In 1735 is found the first authentic reference to removal of the appendix of a human being during life. Claudius Amyand, Esq., F.R.S., operated on a boy, aged 11 years, for the cure of a discharging sinus in the right thigh which communicated with an irreducible scrotal hernia. The hernia was chiefly omental, but in its interior lay the appendix, which had been perforated by the point of a pin, the head of which remained within and acted as a ball valve. Repair of the hernia was begun, and because no good use could be seen for the appendix, a ligature was tied above it and amputation was performed. The hernia was repaired and the boy was discharged in good health, wearing a truss. Unfortunately, owing to neglect of the proper use of the truss, the hernia again appeared about six months later.

Mestivier, in 1757, opened a fæcal abscess which was already in a fluctuant state. The patient died subsequently, and at necropsy it was found that the abscess was appendiceal. This is the first known appendiceal abscess to be opened by incision.[4]

In 1848, Hancock performed the first laparotomy for periappendiceal abscess before pointing or fluctuating had occurred. The operation was performed with chloroform anæsthesia, and the patient made a good recovery.[5]

Kronlein, a Zurich surgeon, in 1884 first removed the appendix for acute disease. His patient, however, did not recover. Thomas G. Morton, of Philadelphia, in 1887 made a diagnosis of perityphlitis and unsuccessfully removed the ruptured appendix. In the same year H. B. Sands, of New York, diagnosed a case of appendicitis and performed appendicectomy with good results. From this time surgeons began to remove the offending organ even before the inflammatory process had advanced beyond its earliest stages. The literature soon became filled with names of those who strove to exterminate that part of human anatomy.

Although the gall-bladder has received less consideration, there is little doubt that the attention of anatomists was drawn to it long before anyone thought of the appendix. The reason for this was the presence of gallstones. The earliest notice of biliary calculi occurred in the work of Alexander Trallianus, a Greek physician of the sixth century.

Among the ancients the bile and gallstones were thought to cause remarkable cures when used as therapeutic agents. About 900 A.D., Rhases, the Arabian physician, wrote : " In the gall of the ox something resembling a stone, of the shape of a ring, is found, which philosophers call ' Alcheron.' Ground and drawn into the nostrils, it promotes sharpness of eyes. . . . If this Alcheron cannot be had, a sequidenarius of the bile of a black bull may be substituted."[6]

The old Jewish Talmudic law recognised that abnormalities of the gall-bladder existed, and considered them in deciding whether a certain animal was " kosher " (suitable for eating) or " terefah " (unfit for food). In a long list of such rules the following occur :—[7]

" If the gall-bladder has been removed by hand, or if it is missing, the animal is terefah. If two gall-bladders are found, the animal is terefah, for it is the same as if it were missing. There are some birds which have no gall-bladder, such as doves and pigeons, but these should not on this account be made terefah so long as this is characteristic of the entire species." (Commentory by Kimbi, early 13th century : " Some animals have no gall-bladder at all ; some have gall-bladders on the intestines, as doves, quail and the canary ; some have the gall-bladder in the belly, and some have it in their ears.") " If hard things are found in the gall-bladder which are like the pits of dates, without sharp edges, the animal is kosher. But if the edges are sharp, as in the pits of olives, the animal is terefah. . . ."

Likewise, in the Shakespearean age, the gall-bladder held a position of esteem. Since it was known to be absent in the peaceful dove, but present in the ferocious hawk, gall was regarded as the cause of ferocity of temper. Thus, when Hamlet could not screw up courage to wreak vengeance on his father's murderer, he complained :—

" But I am pigeon-livered
And lack gall to make oppression bitter."[8]

Even in the present day it is an expression of similar significance, for if one should say that a man " lacked gall " he would more likely be referred to a psychiatrist than to an internist or a surgeon.

Prior to the 16th century, gallstones were looked on as accidental formations which had no connection with disease. In 1507 Benivenius, an Italian physician at Florence, described stones found in the body of a patient who had died after severe abdominal pain. Benivenius seems to have been the first to link stones with disease."[6]

" A Treatise on Biliary Concretions," written by Coe in 1757, was the first monograph in which the combination of anatomical, physical and clinical knowledge concerning gallstones was attempted with any success. Although pathological lesions

were recognised and described, no procedures were suggested to relieve or prevent such lesions, and hepatic surgery at that time did not exist. The gall-bladder shared that heavenly pedestal on which the pancreas now rests supreme, a pedestal inscribed with " noli me tangere."[9]

Petit seems to have been the first who dared molest the sacred organ. In 1793 he noted cases of biliary retention with enlargement of the gall-bladder. He recommended simple incision, but limited the operation to cases in which he was sure adhesions had formed between the abdominal wall and the gall-bladder.[10 11] Thudichum, in 1859, stated that the gall-bladder should first be sewed to the abdominal wall. It could be opened six days after the preliminary step.

The first accurate operation for removal of stones was performed by Bobbs, of Indianapolis, in 1867. The procedure as done by him was to open the fundus of the gall-bladder, remove the gallstones from the viscus or the cystic duct, stitch the margins of the open gall-bladder to the margins of the abdominal wound, and permit the bile to escape externally until the fistula closed in the ordinary course of healing.

In 1878, Kocher successfully operated for empyema of the gall-bladder. In the same year Marion Sims, using Thudichum's method, removed stones.

In some cases, when external drainage had been established, it was found that the fistula did not heal because of permanent occlusion of the common bile duct. These patients were not only uncomfortable because of the persistent drainage of bile to the outside, but they also suffered from gastro-intestinal disorders because of lack of bile in the alimentary canal. It was therefore necessary to divert the stream back into the alimentary tract by means of anastomosis between the gall-bladder and the stomach or duodenum. The first operation of this kind was performed by Winniwarter, of Liege, in 1880.

Thus began a process of evolution in surgery of the gall-bladder. It was noticed in many cases of biliary fistula, when subsequent post-mortem examination was possible, that the gall-bladder had undergone atrophy and had practically disappeared. Hence, it was timidly attempted to remove a considerable part of the structure and to stitch down the remainder in such a way that it would probably shrivel and disappear. Surgeons became bolder, and finally Langenbach, in 1882, completely extirpated the gall-bladder. There is no doubt that since that time the gall-bladder has been torn from the heavenly pedestal it once occupied and plunged into the dungeon of pathology, the pickle bottle.

From such a brief historical review it is evident that only within the last four or five decades have intra-abdominal conditions such as appendicitis and cholecystitis been treated successfully. It should be gratifying, however, that at last surgeons have begun, in true Æsculapian style, to bare that healing right hand and lay it on the " acute abdomen."

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The Light Department Dance

THE Light Department held their Annual Dance at Bush House, Strand, on Wednesday, February 1st. In spite of the prevalence of influenza every ticket was sold some time before the 1st, over 200 guests being present.

Sister Looker and the members of the Dance Committee were much indebted to Dr. and Mrs. Iredell, who acted as host and hostess; also to Dr. Watt, who made a most excellent M.C., and so helped to make the occasion a great success.

Among those present were Mr. and Mrs. Eason, Dr. and Mrs. Carter-Braine, and many other members of the Staff.

The function was even more successful than that of last year, and the question is already being asked, when the next will be held.

"THOROUGHLY PHYSIOLOGICAL"

The Residents' Play

"Hunt the Slipper" or "Altmädchen in Uniform"

EVERY year when Nature is about to perform her "eternal miracle," the Residents perform their's also, and the House Officers, who to the casual observer would seem, in a histrionic sense, a thicket of barren fig trees, blossom like the rose for an all too brief Spring.

The Physiology Theatre, which, full of slumberers, sleeps itself the whole year through, awakes once more from its uneasy dreaming. Drama, Music, Poetry and Painting sweep Physiology and Anatomy from the boards, and hold the stage while Intelligence and Beauty pack the Tribunes.

It is an axiom in law that all Residents' Plays are the best for ten years, and this play was no exception, Bishop and Reading happily uniting brought forth as the fruits of their union a sparkling book and lyrics—by Fantasy out of Wit. Although their modesty pays tribute to the combined inspiration of the Penge Empire and Noel Coward, they pay these dramatic pundits too much honour and themselves too little.

Not satisfied with writing the play, they also produced it, and the whole show slid in well-oiled grooves with a slick smoothness which speaks for their efficiency and enthusiasm.

In every union, cynics say, there is always a *tertium quid*, but in this case the introduction of the third member produced nothing but harmony. De Gruchy wrote at their bidding music which interpreted every subtle shade of the authors' fancy: romantic and saccharine, cynical and vitriolic, despairing and lachrymose, rollicking and alcoholic, gruesome and sanguinary!

All three were lucky in having a caste who sang their lyrics so sweetly. Never before in any Residents' Play have I heard so many tuneful voices, and at one time I counted no fewer than four people singing together in perfect tune—an incredible coincidence which I dare swear has not occurred for 20 years or more.

To describe the plot is a task which presents some difficulty. The authors appear to have experienced the same trouble, for they introduce a compère, a jester, a troubadour and odd members of the caste to try and explain it from time to time, but, in spite of all their efforts, it disappears completely from view about half-time, to make a half-hearted re-appearance just before the final whistle; but with so many pearls who cares about the string which joins them?

After a prologue where skilful chaos brought coherence, the curtain rose on the "Debonair Back Stair" (Reid) and Nurse Salmonella (Wood), the seductive blonde, tearfully lamenting amongst the dreary holly and tattered trees of half-forgotten Christmas, while outside the winter winds whistled dismally through the barren trees and made, with the squalling babies, a moaning concert. Salmonella's heart is full of Sorrow and Bitterness. Poor Salmonella! she has no clothes to wear at the Nurses' Ball, and, while she slaves in Vic, Sisters Bean and Quick will trip the light fantastic and flirt with Abrodil! Her Abrodil! Back Stair, not trusting himself in verse, retires to give place to Robeleine (Stamm), a lusty wardmaid whose stiff pink front conceals a heart of gold. On her expansive breast Salmonella sobs out her sad story, and is moved to song:—

When first I came to Guy's, you see
I came here straight from school,
I thought that doctors gleamed with passion,
I thought that kissing was the fashion.
I didn't realise, you see,
I was a little fool,
That till you've got your blue
The men won't look at you.

I would be so gay, dear.
Why should I be sad?
Singing all the day, dear;
Happiness and gladness,
Were I not a Junior Pro.

Robeleine, not to be outdone, sings of her amorous adventures with full-throated ease, while even Back Stare is inspired to add his throaty warblings to the chorus.

Hardly have the last strains died reluctantly away before the wicked but beautiful Sisters Quick and Bean appear, and load with hateful tasks poor broken-hearted Salmonella's breaking back. Poor Salmonella! her eyes are bright with tears when Abrodil, her hero, enters the ward. How beautiful he was! Every feminine heart thrilled with Salmonella's when he kissed her, but alas, he was not as wise as he was handsome. He should have told Salmonella her eyes shone like stars in a silvery pool, not told her that her eyes were red, and when he asked her to the Ball she scornfully refused. Abrodil was beautiful, but dumb! He should have guessed she had no gown; instead he rushed to Sister Quick to soothe his ruffled vanity.

Poor Salmonella! her ever-brimming cup is full, again it overflows, and Robeleine, appropriately entering with a mop and pail, endeavours to console her, but Salmonella will not be comforted, and from the depth of her grief enunciates these immortal lines:—

I've come to the conclusion that Love brings only sorrow,
And these same lips you kiss to-day, you shudder at to-morrow.

Robeleine, ever amorous, sings of her affections :—

Listen while I tell my tale,
How I lost my sailor lad.
He found a ship that was to sail
To Bombay via Gibraltar,
Left me standing at the altar.
Since I've lost my *beau ideal*,
There's nothing like a few good tries.
I keep on looking for another,
Found him here at last, at Guy's.

I could care a lot for Dr. Watt,
I could lose my heart to Eyre,
I would give the earth
To cuddle Worth,
And Iredell sets my heart afire.
I would say, " I'm on," to sweet St. John,
For Hampson I would steal or forge ;
And if I ran from Bobby Cann,
It's only 'cos I'd once seen George.

Salmonella—

Poor girl, never trust a word,
Never put your faith in man.
It's so terribly absurd
To watch the foolish girls who're
Fain to trust in human nature.
Sailors' wives fill every port,
Soldiers' fill every town.
Why should a ward clerk, then, be different ?
Trust him and he'll let you down.

Though I'd like to care for Conybeare,
Yet my cautious head says, " Wait."
Though I melt to Hurst,
I put my duty first,
And even turn from dear Douthwaite.
I have said, " I can't,"
To poor dear Grant.
I once said, " No, you don't," to Witts ;
And just look here, I said, " No fear,
I'll never be a bride of Pitt's."

Mr. Look (Erskine), who makes every Sisterly pulse to race, comes to inspect the " Heart " in Number Nine. Fortunately, perhaps, Dr. Campbell's seen the case, and here's her E.C.G. :—

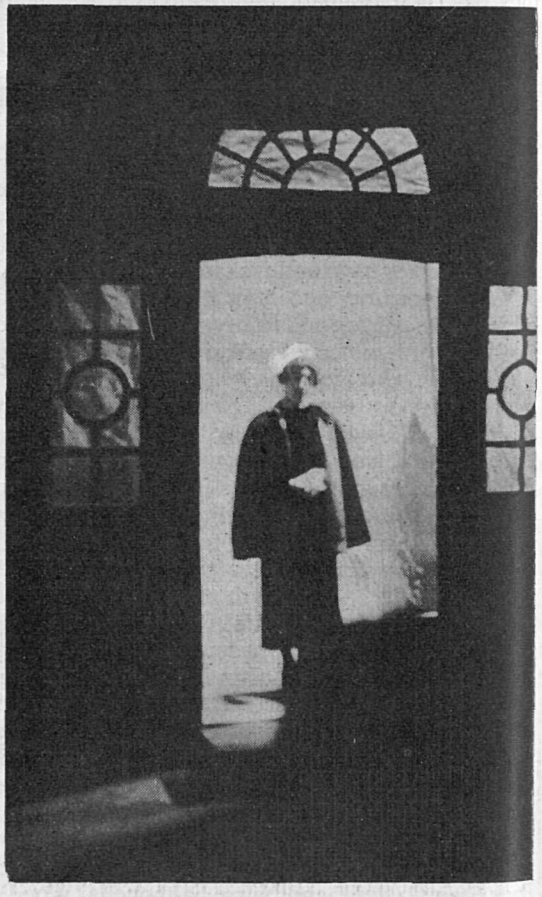
In spite of tachycardia her heart is beating slow,
The more the bradycardia the faster it will go ;
The PR interval is long, inverted is the T,
The QRS in second lead should not so spiky be ;
Preponderance in Number 3 shows myocardial defect,
The heart is normal, but for this, in every other respect

Salmonella is left alone once more, but before she can dissolve into her ever-recurrent tears Robeleine enters carrying the most beautiful of dresses, the Pride of Berwick Market ! and in her hands a pair of substantial, but none the less fairy, shoes. Salmonella *shall* go to the Ball, but :—

So soon as any other feet the magic shoes shall wear,
The skies will darken, and with rain the curse itself declare,
When once again the sun shines out no nurse you'll find yourself,
But some pathetic animal, the playmate of an elf.
In such a useless shape you're doomed to languish all your life,
Such circumstances hardly would commend you as a wife.
And in this form you shall remain until the shoes return
From off those other feet of whose identity you'll learn.
Should they in turn be careless, and their loss likewise incur,
By two shall be enriched the realm of feather and of fur.
And so, perchance, it may turn out that many lose the shoes,
And each, bereft of human form, is helpless to accuse
The owner new. . . . Ha ! Ha ! Ha ! Ha !

and to the crashing of unearthly thunder and the malignant peals of Robeleine's demoniac laughter the curtain falls.

After the depth of emotion plumbed in the first, the second scene comes as balm to the soul. The night, lately so full of tempestuous vapours, is now filled with Silvery Magic, and a Troubadour (J. R. Sharp) most melodiously sings of its moonbeams, and of as much of the plot as he can remember. To the dying fall of his dulcet voice the curtain rises and discloses the dignified figure of Miss MacManus standing at the door of the Nurses' Home on the night of the Ball. With appropriate remarks she welcomes the disembodied voices of local celebrities, whose several virtues move her to song :—



THE MATRON

For Dr. Conybeare I have a great respect ;
His influence he wields to very great effect.
He's Warden of the College,
But, in spite of all his knowledge,
A certain youthful impishness his manner does infect.

The details of the time he spends at Huntercombe
To me they don't confide, but in his College room
I hear he has a gramophone,
Which amplifies each semitone
Of Bach, Tchaikowsky, Grieg and Liszt to one tremendous boom.

My duties as a Matron
I endeavour to discharge
With that degree
Of repartee
Most suited to enlarge
My prestige as a patron.

Now Dr. Blacker I have secretly admired.
By fierce enthusiasm and the fervour he's acquired
He's earned a reputation
That'll spread throughout the nation.
It is a very noble goal to which he has aspired.

His object, so he says, is to eliminate
All people we should not allow to propagate.
It is his great anxiety ;
Deprived of any bias, he
Intends to stop all useless births and great minds elevate.

To smiling Mr. Hughes I am, of course, attached.
He always comes and tells each little joke he's hatched.
I don't believe his every word,
His flattery is quite absurd,
But many an anxious sorrowing heart his cheerfulness has patched.

But when his mask he bites, and when his fingers shake,
You know that some poor soul's existence is at stake.
He's serious when he operates,
But on his rounds he scintillates ;
Despite his childish guilelessness he's very much awake.

Superbly gowned nurses and elegantly garbed house officers glide across the stage in the moonlight to the languorous strains of a melting valse, and the radiant Salmonella floats in the arms of her Abrodil :—

The night is filled with silvery magic.
Nothing so tragic
It can't be mended.
The gentle breeze your hair is caressing,
Soothing you with its sigh.
The moon descends and leaves just the starlight.
This, dear, is our night ;
Sorrow is ended.
Our hearts are bound by heaven's sweet blessing.
Here in my arms you lie.

Poor fools ! it is only the first act, true love could never run so smooth. Tragedy waits round the corner. Poor Salmonella loses her shoes ! Quick, quick, find them before anyone puts them on ! Too late ! The curse ! Thunder and lightning ! Poor Salmonella anguished in the doorway ! Darkness again ! Oh, Heaven, look in the doorway ! Alas, poor Salmonella ! a white rabbit ! Beautiful, but still a white rabbit !

Some very considerable time later the curtain rose for the second act and revealed the telephone box in the Colonnade surrounded by lovely nurses. Inspired by the morning sun they carol joyously :—

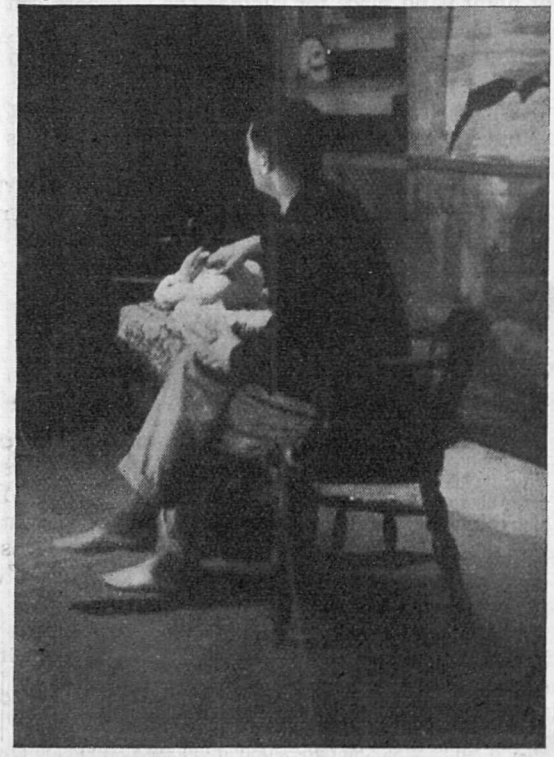
Even little rabbits
Feel the call of Spring.
Pigeons change their habits,
Sparrows start to sing.
Even in the Borough
Cupid's very thorough ;
Don't you think that love's a funny thing ?

I've often watched the Matron's little Raffles.
Beneath his air of breeding
A broken heart lies bleeding.
He feels the Spring same as you and me.

A kiss in Spring each little earthworm snaffles.
Biologists like Evans
Disturb its Springtime heavens ;
He plays the Peeping Tom on hands and knees.

but the telephone boy is feeling blue about his job (no wonder !) and makes the hearers blue with his laments. Mr. Slicky (Owles), and later Sir Francis Allways (Sharp), break in unsympathetically upon him, and have a spot of bother with the 'phone.

Abrodil, remembering the plot, fortunately rings up Mr. Look. Good heavens ! Poor Mrs. Look,



THE HERO AND HEROINE
" Good Lord ! They're coming here."

her salad days are here again, for Mrs. Look had taken the shoes for the Ladies' Association Jumble Sale (or so she said, but why did she try them on ?). Too large ! then perhaps Mr. Look—hey presto—once more Lady into Rabbit !

Hearing that Mrs. Look is happy with a cabbage, Abrodil sings for joy as Mr. Look is sending back the shoes, and Salmonella will be herself once more, and so will Mrs. Look. (What about poor Mr. Look ? But we are not told.)

The curtain next rose on Salmonella in the form of the be-yewtiful white rabbit sitting on the table in the luxuriously appointed room of Abrodil. It is a peaceful scene, but there are bad men abroad, and sounds of drunken revelry are heard outside, and, rising above them, the clarion tones of our revered Warden, not, alas, raised in the cause of True Temperance and Gentlemanly Behaviour, but urging the drunken crew to fresh excesses.

Abrodil, our hero, who is far above all that sort of thing, enters for a *tete a tete* with his beloved rabbit. The shoes arrive, and Salmonella is herself again. Hardly had the first transports of the lovers abated when the voices of the wicked are heard approaching. Nearer and nearer they come. Poor Salmonella ! a college room at dead of night is no place for such as she ! Where can she hide ? Too late ! On with the shoes, Abrodil ! In burst the hosts of Midian to find Abrodil with his rabbit once more.

The most intoxicated of the Residents (Cantor), rolling with with awe-filling fidelity to truth, reels off this rollicking ditty :—

Sing hey for a glass of brown sherry,
Sing ho for a tot of neat gin ;
To-morrow we won't feel so merry,
But, thank Heaven, we're not taking in.
If they want us to give dopes in theatres we'll say,
" No fear, we've done quite enough work for to-day."

So fill up your glasses,
Come fill up your glasses,
And please to repeat after me :
That the Residents' Going-off Dinner
Is the time to make high revelree.

Sing hey for a glass of strong bismuth,
Sing ho for the aspirins, too,
For to-morrow each one will feel his mouth
Has been filled up with tintacks and glue ;
But to-night if the big chief should ring up to tell
Of a case that is coming, we'll say, " Go to Hell."

So fill up your glasses, etc.

You'll and that these Going-off Dinners
Are never too boring or slow,
And here you'll find case-hardened sinners,
Such as Coney and Rudy and Co.
If you think that I'm telling you what isn't true,
Just come to the next and I'll prove it to you.

So fill up your glasses, etc.

Suddenly, through the misty fumes of gin, the feet of Abrodil are noticed, and on the feet the fairy shoes. Shouting shameful epithets the abandoned creatures, ignoring Abrodil's noble indignation, hurl him to the ground, take off the magic shoes, and throw them into Maze Pond. " *You're nothing but common cads,*" hisses Abrodil as he rushes into the street.

The common cads are left carousing, when a dreadful crash is heard ; Abrodil has been run over by a 3-ton lorry, and the ominous bell of the ambulance rings down the curtain on Salmonella quietly wrinkling her elegant pink nose.

The third act opens in Theatre 5 with Abrodil laid out on the operating table, being anæsthetised by Sir Francis. The Volga Ward Clerks, grouped most picturesquely in the foreground, disobey the printed instructions as to their behaviour during inductions, and " sink sad sonks " in a flood of green light :—

We're eager for rounds,
Reports are our pride ;
There's tea to be made
And sausages fried.
We fetch Balkam beams
And put them up wrong ;
Our woes and exhaustion account for this song.

Oh-ho-ho-ho-ho, harken our song.
Oh-ho-ho-ho-ho, life is too long.
Oh-ho-ho-ho-ho, but longer is Death, but longer is Death,
But longer is Death !

When the houseman calls
The ward clerks obey.
We lift our loads in a clumsy way.
Our backs may be sore,
Our biceps achin',
Yet who'd go to bed when he's doing a Take-In ?

Oh-ho-ho-ho-ho etc.

The chloroform drips
Sleep fills the air ;
Far off we hear
The Registrar swear.
Suppose we should nod
On the sterile towels ;
We don't care if our heads rest on nothing but bowels.

On-ho-ho-ho-ho etc.

Oh, the day has come,
And the dawn has broken ;
We're too full of tears,
No word is spoken.
We stand in theatres,
Resist such temptations
To fall off to sleep, as we scrub lacerations.

Oh-ho-ho-ho-ho, etc.

At last it is over,
We crawl back to bed ;
We envy our victims,
For none wakes the dead.
How easy their job,
Just wings and a harp !
Don't forget Minor Ops. at nine o'clock sharp.

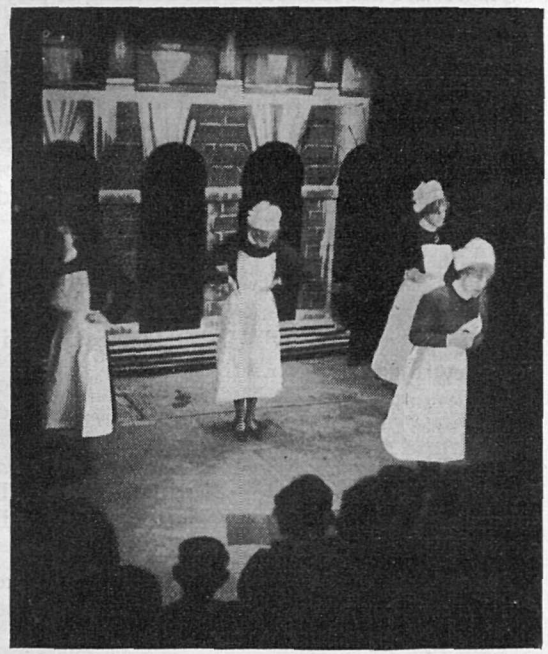
Oh-ho-ho-ho-ho, etc.

Bolton threw in a few reds, and Cantor (Mr. Nagge), the redoubtable surgeon, appeared, a masked and awful figure. Hammer and chisel do their fell work, and at last the abdominal wall yields to the master's skill. Did he expect to find the shoes ? We are not told, but the red blood drops relentlessly, and Mr. Nagge, a macabre figure in the sanguinary light, is moved by it to sing a song which curdled every blood corpuscle in the Theatre, except Abrodil's :—

THE RED, RED BLOOD

The red blood flows relentlessly,
With a drip, drip, drip upon the floor.
The victim lies defencelessly,
Devoid of every sense is he ;
And the red, red blood wells up once more.
Ah, the red, red blood upon the floor.

We're all of us born to gloom and sorrow ;
We laugh to-day, but we're dead to-morrow.
The chloroform mask, the Surgeon's knife,
Will dismally end our useless life.



SISTERS OF THE SICK
" Our noses may be bright."

We're only machines, our brain is dead ;
Our blood is but fit to stain the floor red.
They gruesomely laugh—ha-ha-ha—at that stain
so red.

The veil falls on this most moving scene.

The last scene takes place on the Colonnade steps, and it opens like Macbeth, with the weird sisters. Draping themselves in the most plastic manner, they sing a bitter-sweet song in the Coward manner :—

SISTERS OF THE SICK

You know the kind of woman who drinks cocktails,
Who's rather bored with dances and with plays,
Who greens her finger-tips and blues her toe-nails,
And browns the rest with ultra-violet rays.
She has her face renewed each day by Arden,
And ruins it at night by drinking gin ;
She ought to know it makes her arteries harden.
Oh, golly, save us Sisters from such sin.

But here we shun such nonsense. Eton crops
Are merely in accord with strict hygiene.
We don't pluck our eyebrows. Hygiene stops
At simply keeping face and fingers clean.
Look at us all, our noses may be bright,
It's only 'cos we wash them with Sunlight.

Sisters of the Sick,
Sisters of the Sick.
We are really very, very shy ;
Yes, we're prim and shrinking,
Never winking,
Never give a real glad eye.

Sisters of the Sick,
Sisters of the Sick.
Flirting is a thing we dare not try.
When the houseman's friendly
And unbends we
Go and have a damned good cry.

We start off in the morning,
We work from eight till ten.
The evening finds us yawning,
With little use for men,
For though we may be women
We're Sisters after all.

Sisters of the Sick,
Sisters of the Sick.
Though our wages may be none too high,
We are all hard-working,
Never shirking,
Ours is but to do or die.

After this matters move swiftly to a conclusion. Mr. Nagge arrives in his sumptuous motor car, Slicky arrives, Sir Francis arrives, everyone arrives. Abrodil, we are told, recovering in some unexplained miraculous manner from his operation, has become a rabbit, Sister Globulin has hysterics,

the shoes are found, worn by a lady in the audience. Everyone becomes themselves again, and join in singing a patriotic finale, and the curtain fell for the last time to the deafening applause of the enthusiastic audience.

For the benefit of those who have not been able to follow my exposition of the plot I offer a short summary :—

Salmonella goes to the Ball in Fairy shoes.
She loses the shoes and becomes a rabbit
Mrs. Look becomes a rabbit (off).
The rabbit becomes Salmonella.
Mr. Look becomes a rabbit (?).
Salmonella becomes another rabbit.
Abrodil is crushed by a 3-ton lorry.
Is operated on by Mr. Nagge and becomes a rabbit.
The shoes are found.
All the rabbits are turned into Abrodil, Salmonella, Mr. Look (?) and Mrs. Look (off).

But who cares about rabbits when there are inspired scenes like the Nurses' Home, the scene in the Operating Theatre, and the Sisters of the Sick to amuse and thrill us ?

The show was acted with great enthusiasm by the whole caste, who obviously enjoyed themselves as much as the audience, and all were excellent. The character acting for physical reasons was, perhaps, not as good as usual, but the general level of the acting was much above the average. Hall-Smith as Abrodil was a most engaging hero, and Wood, his beauteous leading lady, acted very well and sang most sweetly. Stamm, as Robeleine and an itinerant flower girl, sang extremely well, and his curse which ended the first scene was a tremendous piece of work. Cantor, who sang the Drinking Song with great understanding, gave a good performance as Mr. Nagge, and conveyed very clearly the peculiar unearthly atmosphere of the operation scene, singing its eerie stanzas in a manner well worthy of his name. Howell, I thought, gave two masterly studies of the Matron and a Sister, and his judicious restraint was very clever ; even in hysterics he was every inch a Sister.

Bradbeer, as the Telephone Boy, if in the background, was also the backbone of the Telephone Box scene. It is impossible to do justice to all the rest of the caste : Owles' " Slicky," Sharp's "Allways," Crowther Smith's " Sister Bean," Windsor Lewis, Reid and Erskine as the ever cheerful, beautiful and tuneful chorus, Miller as a Porter, and Bishop as the most plastic of the Weird Sisters ; R. Sharp as the wandering voice which gave colour and tone to every chorus ; Tomlin, who again designed the effective settings ; Bolton, with his kaleidoscopic lights, and Scott, who played the piano sympathetically with De Gruchy—all played their part in making the whole one of the best drilled productions for a long time, and even those who did not take home concrete souvenirs of " Hunt the Slipper " carried very many happy recollections.

Notices

SQUASH COURT

Through the generosity of the Guy's Hospital College Catering Company, a Squash Court is being erected in the vicinity of the existing Fives Court (which belongs to the Hospital). This Squash Court, which will be of standard size and will provide a gallery and cloak-room, will become the property of the Guy's Hospital Clubs' Union.

Owing to the anticipated demand for the use of the Court, the following regulations will be enforced :—

1. The Court may be booked not more than three days beforehand for periods indicated in the book kept in the College. If the names of both players are not entered on the morning of play, another member has the right to take the Court.
2. In order to assist with the rent and running expenses of the Court, a charge of 1s. per half-hour will be made for light.
3. In order to keep the Court as clean as possible, members are requested to wear clean rubber-soled shoes for play. A cloak-room is provided for the changing of shoes.

N. L. ECKHOFF,
Hon. Secretary,
Guy's Hospital Clubs' Union.

February, 1933.

The Directory of Guy's Men (Medical and Dental) is now ready for distribution, and all subscribers to *The Gazette and Directory* will receive their copies through the post.

Subscribing members of the Clubs' Union are entitled to a copy of the *Directory*, which may be obtained on application at the Wills Library.

Non-subscribers may obtain a copy at the *Gazette* Office (Counting House), Guy's Hospital, S.E.1, price 2*s*. 6*d*., postage 3*d*. extra.

Death after Extractions

A Paper read before the Dental Society, Guy's Hospital, by M. A. Rushton, Esq., B.Ch., L.D.S.

" Take them into the castle yard to-morrow, and show them the bones and skulls of those thou hast already dispatched."—PILGRIM'S PROGRESS

MR. CHAIRMAN and GENTLEMEN,—I shall not go into the historical aspect of this subject of death after extractions except that I should like to quote to you a few words from the work of Master Jan called Yperman, who practised in Flanders at the end of the 13th century, a man of considerable skill and knowledge. " When you start treatment," he says, " take heed that the patient does not bite you." He goes on to say : " In the case of the double teeth being decayed, but not having abscesses and not being loose, there would be great risk in extracting them, for many people have suffered severe and incurable lesions, and many have died of it. Those who survived had for the most part phlegmons of the cheek which discharged splinters of the jaw. The phlegmons are traversed by fistulæ and the cheek remains enlarged. If the teeth are loose there is no danger in extracting them." That reads like a true account, but that was about 600 years ago. Nowadays we see the operation of dental extractions so often performed and so little harm come of it that we are apt to regard the matter as a very trivial one. In the gas extraction room we used to see teeth extracted almost by handfulls, and our patients disappear into the fog of the Borough supported by their relations and usually pressing an unclean handkerchief into their wound. And we never see them again or know whether they have benefited by our treatment, or have subsequently been admitted to the local infirmary.

Nevertheless, it is clear that a certain number of people die every year in circumstances which leave no doubt that the extraction of their teeth was the precipitating cause of their death. How great this number is we cannot tell. It is not surprising that we do not hear of many, for no one is anxious to make them known, but in a certain number of cases an inquest cannot be avoided, and then a report of the proceedings appears in the local paper, being later reprinted in one of the dental journals. These reports are compiled by men having no medical training and are often difficult to interpret, but they make interesting reading. For some years I have collected them, and I shall read you some extracts from them later on.

It is my impression that deaths of this kind in foreign countries are not so commonly reported in foreign dental journals, but it is curious to note that accounts of those occurring in England are frequently reprinted in them, even as far away as Japan, doubtless creating the impression that there is a high mortality in this country. The subject of death after extractions is one to which but small allusion is made in our dental text-books, but it has a certain importance not only because of the relatively small number of people who die in this way every year, but also on account of the much larger number who are undoubtedly made temporarily and sometimes seriously ill by our attentions.

The first thing we have to consider is the question : In what way do these people die ? On looking through about 40 inquest reports I find that the causes of death are of very many kinds, but I have tried to collect them into three groups for the sake of simplicity. Before speaking of these cases, however, I should like to say that in any of them which will be mentioned no criticism should be taken as applying to the actual dental surgeon, coroner or patient. We shall be discussing not an actual case, but an hypothetical newspaper event, founded on fact but with many of the important details and alleviating circumstances of life omitted.

In the first group I am including shock, syncope, heart failure and respiratory failure. This is very much the largest group, containing 19 out of 40 cases, *just about half.*

You are all familiar with this type of case, which you read about in the evening paper on your way home. It appears that the patient had a " fatty heart " all along, and that blame attaches to no one. But I hope that you sometimes feel uneasy as you read those reports, and reflect that there are a great many people going about with those same fatty hearts and leading useful lives, and that a live man with a fatty heart is usually preferred to a dead one.

A great thing to bear in mind is, obviously, " Do not extract too many teeth at once." When in doubt take the lesser number. We have little to gain by removing very many at once, and may lose a good deal. The maximum number of teeth which it is safe to take out at one time is not a fixed figure, but differs with every state of health. If there is a question of recent illness, or when we are dealing with elderly or frail persons, we must, of course, be particularly careful and, if possible,

obtain the views of the patient's physician on the situation. A coroner in one case made a very sound remark when he said, " More consideration should be given to the question whether, in cases of septic mouths, it was advisable to extract a large number of teeth at once. In such cases there should be more inter-communication between doctor and dentist, because a dentist could not be expected to know the medical history and condition of the patient he might be seeing for the first time." In the case of sick persons it may be essential not to attempt to remove undesirable teeth for a time, or even at all. I remember being asked to take out a tooth from a man who was certainly going to die, because someone wanted to get a culture from the apex, and I did so under a local anæsthetic. But the man died with such remarkable promptness within the next few days that I felt quite guilty about it. I think that there is much to be said for letting some people die in peace, bad teeth and all.

Another point now arises. If, after we have extracted about three teeth, the patient goes black in the face, or blue, or any other unpleasant colour, it is well to be content with our three teeth and to desist from taking any more on that occasion. In the comparatively few cases which I have here there are no less than three which illustrate that point. In one of these the continuation of extractions probably made no essential difference to the result, but gave ground for censure by a truculent section of the jury.

In the second group we will include septicæmias and pyæmias. These form a particularly tragic section, because they seem to occur especially in young people. The average age of nine cases of which I have note is below 30, and the eldest was 43. Here we are concerned not only with the number of teeth extracted, but still more with the quality. Most of these patients had only one or two teeth removed, but generally they were very bad ones, or teeth on which several attempts at extraction had been made at intervals of a few days. I do not think that many of these cases can be avoided so long as people will continue to neglect their teeth until they have become a centre of acute infection. There are a few points which it is important for us to remember, however, and one is to do only what surgery is absolutely necessary in the presence of such acute infection. That is, we must concentrate on getting drainage, and if a portion of root should remain behind we must restrain our natural desire to open up a lot of new bone to look for it and be content to wait a week or two until things have settled down. We can regard all the small open veins in our wound as behaving like little vacuum-cleaners, ready to suck up any bacteria which are spread over them and carry them off into the blood stream. If the micro-organisms are very virulent, or the patient's resistance be very poor, than a fatal septicæmia will result. There is no doubt that a scattering of bacteria into the blood stream occurs very frequently after the extraction of septic teeth. A number of people have done work on this subject, but I will only mention the results of Giorelli, who artificially created alveolar abscesses on the maxillary canine teeth of dogs, and then extracted these teeth two months later. He took samples of blood five minutes, quarter-hour, half-hour, one hour, and so on after the operation, and on culturing these was able to show in two cases out of seven that bacteria were present in these samples, persisting as long as half an hour after the extraction. By one hour they had all been destroyed by the defensive processes of the blood. If the animal had not sufficient stamina to destroy these organisms so quickly it would, of course, develop a septicæmia and die. The chief factor is thus the resistance of the patient to the bacteria in question, and that is, unfortunately, a matter which we cannot greatly alter before an emergency operation. We can, however, minimise another factor, namely, the dose of organisms liberated, by limiting the extent of our operation to what is absolutely necessary and avoiding excessive trauma.

Where the teeth are more chronically infected the number of teeth is more important, especially if the patient be weakly. The amount of toxins, and also bacteria, let loose into the blood stream by the extraction of a large number of teeth may do the patient great damage, but more often it just makes him feel intensely ill and miserable. We have all met patients who go about with a mouth full of decayed roots because they say that last time they had some teeth out it made them feel so ill, and we know how difficult it is to persuade them to have any more out. These cases are those, very often, in which the diseased teeth are doing the most damage in other parts of the body, a strong reaction after extraction being rather typical of this relation.

In such a case a carefully graduated plan of campaign with proper intervals between the operations is essential. Dr. Hurst, I think, recommends in these cases the administration of a vaccine prepared from the first tooth extracted, given on about three occasions before further teeth are removed, to minimise the reaction and prevent the patient being made worse rather than better.

I will just mention a case which I saw to illustrate these points. A man of 60 or so was in a

very feeble state, with severe anæmia and mental disturbance. He had a large number of very bad teeth, and there was some reason to believe that these were partly responsible for his condition.

One tooth was, therefore, removed, and, as he stood this well, three more teeth six days later. Two days afterwards three more teeth were taken out, and by this time his condition was greatly improved, and there was only a moderate reaction after these operations. Four days later six teeth were extracted and produced a large reaction. His temperature and pulse rose suddenly, his mental confusion returned, and eight days later he died, having developed pyæmic abscesses in his lungs and acute parotitis.

Cases of pyæmia, where portions of septic material become detached from the veins in the neighbourhood of the wound and usually settle in the lung, leading to septic pneumonia and sometimes death, also fall in this group.

While on this subject I will just mention another fatal accident which does not really fall in this group, but in the miscellaneous group, namely, "pulmonary embolism." In this case a large clot of blood gets loosed from some vein or other and carried along through the right side of the heart and jammed in the pulmonary artery, causing one of the most dramatic types of sudden death. Two cases here claim to be of this kind. It is to be noted that the clot was not necessarily, or even probably, of dental origin, but may just have been loosened by the shaking about of the operation, as it may be very often by a change of posture.

Other cases in the miscellaneous group are three of hæmorrhage. Besides the golden rule of not taking out too many teeth at once, we must remember the importance of always pricking up our ears at any mention not only of previous bleeding but also of a tendency to bruise easily. In one of these cases, where considerable hæmorrhage after the extraction of 15 teeth appears largely to have contributed to death, the husband of the patient volunteered the information that the least knock turned his wife's flesh blue. Unfortunately, it is very often only after the operation that these helpful remarks are made.

In two cases teeth that had dropped down into the bronchi led to death, but I do not need to say anything on that subject.

I will just mention that, among other odd causes of death, were a goitre, some pneumonias, and that curious case which many of you will remember of the man who, after having had some teeth extracted under gas in the morning, much later in the day staggered in front of a motor car and was run over.

Before concluding, I should like to refer once more to what is, perhaps, an inevitable defect of hospital training, namely, that we so rarely see the patient again after the deed. And I would urge those of you who have the opportunity of working in the wards, as a good proportion of you will as assistant house surgeons, to study the effects of your actions not only by having a look at the temperature and pulse charts, but also by looking at the patients and letting them tell you about the various ill-effects, if any, which they have experienced. I admit that I did not do so much when I was a dental house surgeon, but I subsequently had the opportunity of watching the results of other people's activities and found it very interesting. When you have seen a few patients tossing about with pains all over, thoroughly intoxicated by the extraction of a number of septic teeth which you may have performed earlier in the day, as you occasionally will, you will have seen something which it will profit you to remember throughout your distinguished careers.

Now some of you may say that I have painted an unduly black picture and that the ill-effects that I have mentioned are very exceptional. We all know that it is a very convenient thing to put a patient to bed, give him ether, and remove a large number of teeth at one time. And it is arguable that for some people this is less dangerous than attending week after week, with journeys to and fro, and having repeated operations under gas in the sitting position. There is also the possibility that the sockets of recently extracted teeth may become infected by those bad teeth which have not yet been removed, and so on. And I shall be very interested to hear your views on these matters.

In conclusion, I should like to suggest that the dental treatment of sick persons is a rather special subject to which we all must give a certain amount of attention. Our opinions on doubtful cases will, sooner or later, be sought, possibly even invited by the physician, and if we have considered the matter our views may be useful; if we have not, they will obviously be worthless.

Here is one last case which was related by an ophthalmic surgeon. An elderly man consulted the surgeon on account of some eye trouble, and the surgeon formed the opinion that this could not be dealt with until the patient's many septic teeth had been removed. This was done, and the man promptly died. Doubtless this was nobody's fault. But it will serve to remind us that there is one disability to which all we students of special subjects are liable—that of not being able to see the wood for the trees.

Sport

Rugby

Guy's v. Birkenhead Park

AT Birkenhead Park on Saturday, January 14th, Guy's were defeated in the return match by 3 placed goals and a try (18 points) to 2 placed goals and a dropped goal (14 points).

Although P. C. Alexander made a welcome re-appearance, the Hospital were still below full strength. However, Guy's played a capital game and should have won, but, after obtaining the lead in the second half, Morgan, at full-back, misjudged the ball on two occasions and the Park were presented with easy tries, which were converted.

The first half was very evenly contested, and the interval score of five points each was a fair reflection of the game at that point.

The home forwards played a spirited game, and were often prominent in their following up; however, Guy's held the upper hand in the set scrums, and Bowles was able to give his backs a good service. T. C. Knowles and R. E. Bibby were in capital form, and their tackling of the Hospital centres was deadly and sure. Cockle, at full-back, never put a foot wrong, and his kicking was perfect.

The home side scored first with a try by Bibby, which he converted, and a little later Hogbin made the scores level when he converted his own try. Early in the second half Barry raced over in the corner for an unconverted try, but Guy's obtained the lead soon after when Walt registered a try, which Hogbin converted.

The Hospital held the upper hand, but two snap tries by Shepherd and Barry, which were converted by Bibby, gave the Park the lead.

After this, Guy's set up a hot attack and Giesen succeeded in reducing the deficit by dropping a goal from an easy position in front of the posts.

Team.—W. J. R. C. Morgan; W. B. Clegg, P. C. Alexander, C. G. Wright, H. A. Hamilton; J. E. Giesen, V. H. Bowles; A. G. Heberlein, J. P. O'Shea, M. R. Kark, R. J. Drummond, M. L. Walt, R. A. P. Hogbin, C. W. Outred, A. R. Clarke.

Guy's v. Rosslyn Park

AT the Old Deer Park, Richmond, on Saturday, February 4th, Guy's managed to draw with Rosslyn Park, the Hospital scoring a penalty goal and a try (6 points) to 2 tries (6 points).

It was in the last minute of the game that the Hospital avoided defeat, and it was the result of a magnificent penalty kick taken by Hogbin from near the touch-line that enabled Guy's to share the points.

In view of the near approach of Hospital Cup-Ties, the exhibition given by the Hospital in this game was very disappointing, and it was a great pity that the matches with Cambridge University and Gloucester arranged for the previous week had to be cancelled, owing to the weather. The form displayed in this match was very much inferior to that usually shown by the Hospital team at this stage of the season, and the enforced rest proved that several members of the side were short of training.

The one bright feature of this game revealed that Guy's have at last discovered in C. G. Wright a wing three-quarter with possibilities. With I. K. Thomas back in the team, Giesen resumed his old position at left centre and Wright was moved to the right wing. This re-arrangement of the back division proved a successful move, and if Wright can only maintain the form shown in this game then Guy's need have no fear about this position. It was rather disconcerting to see Bowles, who had been playing very well previously, far below the standard displayed in recent games. It may have been one of his "off" days, but it appeared that he was so closely watched by Woodhouse that he was anxious to get the ball away at all costs, the result being that Thomas, at fly-half, had a difficult task in setting his three's going. However, when the backs did get the ball they did not make the most of their chances, and mistakes were plentiful.

After a quarter of an hour's play Guy's scored first when Thomas started a movement, which was carried on by Alexander. The latter passed to Wright, and as the result of strong running and handing off would-be tacklers, Wright raced along the touch-line and touched down behind the posts, but Hogbin missed an easy chance to convert.

Soon afterwards a reverse pass by Woodhouse enabled Gladstone to run through the centre and, when brought down, Unwin was up to take his pass to cross for the equalising try.

Just before the interval Haddon-Cave gave his side the lead when he ran over in the corner for an unconverted try.

In the second half, Guy's pressed continuously and penned the home side in their 25, but the determined tackling of the Park (assisted by mistakes in the Hospital attack) prevented Guy's from crossing the line. It was not until the last

moment that Guy's were relieved of their anxieties, and then Hogbin kicked a penalty goal from a difficult angle.

Team.—W. B. Clegg; M. J. Lindsay, J. E. Giesen, P. C. Alexander, C. G. Wright; I. .K Thomas, V. H. Bowles; M. R. Kark, C. W. Outred, A. G. Heberlein, I. G. Robin, M. L. Walt, C. S. Darke, R. A. P. Hogbin, A. R. Clarke.

Inter-Hospitals' Cup—1st Round
Guy's v. Middlesex

ON Tuesday, February 7th, Guy's met Middlesex and were successful by a placed goal, 2 penalty goals and 4 tries (23 points), to a dropped goal and 2 tries (10 points).

Although Guy's won on their merits, the forwards in particular will have to give a much better display if they are to overcome St. Mary's, whom they meet in the next round on February 21st. It is true that they lacked the services of J. P. O'Shea, their hooker, in addition to T. Morgan and A. R. Clarke (both down with influenza), but the fact remains that they tired so much in the second half that the Middlesex forwards were on top at the finish.

Cup-Ties are totally different to Club matches, and it behoves every member of the side to keep perfectly fit, especially if they are to last the full 40 minutes each way. From what we hear there are many " dark horses " in the competition this year, and no team can underestimate their opponents.

But for the fact that Guy's established a commanding lead early in the game, which was increased after the interval, it cannot be denied that, had they been pitted against more experienced opponents, the story at the end might have been totally different. A quick try to Guy's in the first minute of the game undoubtedly encouraged the Hospital from the start; Johnson was the scorer, and every credit must be given to him for seizing an opportunity when the ball dropped at a difficult angle.

With the wind in their favour Guy's continued to press, but, although Giesen and Johnson put in good runs for the Hospital, they could make little headway, until Hogbin kicked a penalty goal ten minutes from the interval. Then Guy's scored two quick tries through Heberlein and Giesen, the former being converted by Hogbin, but in between Hancock came near to dropping a goal for Middlesex.

The second half opened with onslaughts by Guy's, which resulted in both Wright and Johnson scoring unconverted tries. Alexander, who had been conspicuous throughout with his first-class tackling, created a model opening for Wright, who scored an excellent try, and soon after Giesen, receiving the ball from Outred in his own 25, sent Johnson away from the halfway line for the second try.

In the last quarter of an hour Middlesex rose to the occasion, and Hanbury, following up his own kick, took the ball in his stride and ran over for a try.

A penalty goal by Hogbin roused Middlesex to greater efforts, in the course of which Beggs missed a grand opportunity of sending his wing man over. However, a minute later he atoned by dropping a splendid goal from beyond the 25 line.

Middlesex continued to attack, and eventually their energies were rewarded when Edwards, picking up a loose ball, kicked ahead and Kent secured the touch-down.

Team.—W. B. Clegg; A. G. Johnson, J. E. Giesen, P. C. Alexander, C. G. Wright; I. K. Thomas, V. H. Bowles; M. R. Kark, C. W. Outred, A. G. Heberlein, I. G. Robin, M. L. Walt, C. S. Darke, R. A. P. Hogbin, T. A. Hale-Monro.

Association

Inter-Hospitals' Cup—1st Round
Guy's v. Middlesex

ON Tuesday, February 7th, at North Wembley, Guy's beat Middlesex by 4 goals to 2.

Guy's were at full strength, except for Colbert, who had an injured knee. Sprigings was, therefore, included at inside left.

The ground was in a dreadful condition, but this aided rather than hindered the lighter Guy's team. Osborne won the toss for Guy's and chose to kick with the wind, which was blowing very strongly.

Middlesex attacked from the kick-off, and their forwards showed some skilful play. They did not get within shooting distance, and soon play went to the other end.

Groom put Guy's one up within five minutes with a clever cross-shot following a solo run. Guy's continued to attack, and Groom scored again from close in with a rather weak shot.

Middlesex now attacked strongly, and Stoneham was forced to come out and fall on the ball. He threw it out, but a Middlesex forward seized it and shot into a crowd of players in front of goal. The ball struck a defender on the hand and a penalty was awarded to Middlesex. Lloyd took the kick and struck the top of the bar. The wind

blew the ball back into play and the Middlesex forwards scrambled it in.

Play soon returned to the Middlesex end, and after 35 minutes Lewis scored a third for Guy's with an excellent shot.

Half-time: Guy's, 3; Middlesex, 1.

In the second half Middlesex, aided by the strong wind, attacked strongly. Their forwards were clever, but failed to adapt themselves to the pitch, which was now a sea of mud. Their dribbling and short ground passing were ineffective in the mud, and the more open tactics of the Guy's team were more successful.

Guy's were now chiefly on the defensive, but made occasional dangerous attacks by means of long passes to the wings. From one such pass Lewis put in a good centre from which Harvey scored.

The game became very vigorous, and several free kicks were awarded. The Guy's defence was very steady, Stoneham, in goal, making some good saves. His safe handling of a greasy ball was a notable feature of this half.

Towards the end Middlesex made desperate attempts to score. Lloyd shot from close in and the ball was deflected by a defender past the goalkeeper's reach. Score, Guy's, 4; Middlesex, 2.

Following this, the defence gave Middlesex no further chance, and the game ended with the score unchanged.

Result.—Guy's, 4; Middlesex, 2.

Hospital Information, etc.

Pass List

CONJOINT BOARD.
January, 1933.
PRE-MEDICAL EXAMINATION.
PART I.
Chemistry and Physics.

R. W. Stevenson	P. A. Chandler
†C. M. W. Debenham	D. L. Goodridge
†R. Howgate	F. L. D. Young
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FIRST EXAMINATION.
PART I.
Anatomy and Physiology.

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† Anatomy only. * Physiology only.

PART II.
Pharmacology.

M. J. Harris	W. P. Fitch
G. E. Ellison	A. A. Wailer

SOCIETY OF APOTHECARIES IN LONDON.
January, 1933.
PRIMARY EXAMINATION.
Anatomy.

C. C. Becker	F. J. R. Stoneham

Physiology.
W. J. Helliwell
FINAL EXAMINATION.
Forensic Medicine.
L. Wailer
Midwifery.

T. Morgan	E. Pugh Jones

Papers by Guy's Men

M. E. Shaw. Spontaneous subarachnoid hæmorrhage from congenital intracranial aneurysm. *Lancet*, 1933, 1, 138.

J. V. C. Braithwaite. Specimen and photos of case of neuroblastoma of suprarenal gland (Hutchison type). *Proc. R.S.M.*, 1933, xxvi, 279.

T. R. Hill. Hereditary cerebellar ataxia. *Proc. R.S.M.*, 1933, xxvi, 302.

C. Worster Drought. Myopathy. *Proc. R.S.M.*, 1933, xxvi, 295.

Change of Address

J. Wheatley, L.D.S., R.C.S. (Eng.), Connaught House, Southend Road, Beckenham, Kent. *Beckenham* 1209.

Appointments

W. S. Stranack, L.D.S., R.C.S. (Eng.), Visiting Dental Surgeon, Government Hospital, Durban, Natal.

R. R. Macintosh, Lecturer in Dental Anæsthetics, University College Hospital Dental School.

Birth

VAN GEUNS.—On December 12th, 1932, to Joy (née Jenkin), wife of Rudolph van Geuns, L.D.S., R.C.S., Klerksdorp, Transvaal, South Africa—a daughter.

Death

CARROLL.—On 1st September, 1932, suddenly, at 164, Queen Street, Concord West, New South Wales, Lily E. Carroll (née Hindley).

EDS. { F. S.
M. J. McA.

GUY'S HOSPITAL GAZETTE

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PASSIM

IT seems such a very short time ago that Mr. Steward left the Hospital that the retirement of Mr. Fagge comes upon us with something of a shock. By the time these words find their way into print he will have operated for the last time in Theatre VI and will have done his last teaching round with his firm.

Mr. Fagge will always be remembered at Guy's for the interest and trouble he took in bringing up his dressers in the way they should go, and many generations of Guy's men must be thankful for his instruction. We hope to publish an appreciation of Mr. Fagge in our next number.

▭

No longer can our antiquated X-ray plant be used as a peg on which to hang trenchant arguments in support of the State-administered hospital. No more can the baffled physician lay the blame of a mistaken diagnosis upon this much-maligned department. The visitor to the new premises cannot fail to be impressed as his feet noiselessly cross the rubber floor, as he gazes at the latest shining example of the magician's art with its water-cooled tubes—so complicated it appears to the uninitiated and yet how simple and obedient to the manipulator.

No more do intimidating flashes of blue flame split the air with their raucous cries, and no longer does one have to strain one's eyes to catch a glimpse of the barium as it flashes past the faintly-illumined square, for the old days have vanished and the antique apparatus with them.

Already this mechanical efficiency is reflected in the greater clarity of the films and X-rays such as we had never dreamed of previously are now every-day exhibits. Of course, this change has its disadvantages, the old excuse of obesity or incomplete preparation of the patient for producing a completely opaque film are now no longer valid.

Yet the centralisation of the X-rays in the Hospital for which we have prayed so long remains still to be granted. The harassed O.P.O. will still have his excuses for his frequent appearances in the Park on a sunny morning, and the casual stroller in the Colonnade will still have the same difficulty in directing patients to the cleverly concealed Surgical X-Ray Department.

▭

YET this new apparatus is not the latest mechanical addition to the Hospital. During the last few days a buzzer attached to the telephone has been installed in every department in order to expedite the arrival of the take-in House Physician and House Surgeon to the correct place.

In fact, within five minutes of the call the whole Hospital knows about it, and the House Officer concerned becomes a marked man until he answers this imperious summons. From reports received, this experiment has been attended with immediate success, so much so, in fact, that the authorities threaten to allot a code signal to each Resident whereby he may be immediately summoned. Such a step would, we feel, be too much of a good thing, and the cacophony of sound which one can imagine issuing from the porter's lodge in the College, on a busy Monday morning, would resemble a hive of angry bees or a backward class involved in the intricacies of Latin verse and struggling vainly in a nightmare of dactyls and spondees!

▭

IN the recent death of Mr. T. W. Thornton, of Beckenham, the Landon Christmas Tea Fund has lost a very good friend. Ever since Christmas, 1916, when, after being a patient in Bright Ward, he was taken to Out-Patients to share the enjoyment of the Hospital's guests at the annual Landon Tea Party, Mr. Thornton has been a generous

contributor to the Fund, and until two years ago regularly attended and helped throughout the afternoon.

It is to be hoped that the Fund will be able to find a friend who will fill this gap, not only on the financial side, for the vacancy left by the passing away of a supporter whose interest and enthusiasm never flagged, is a far greater loss to the Hospital.

AWARD OF "BLUES"

THE Clubs' Union Council has awarded the following "Blues" upon the recommendation of the Blues Committee :—

RUGBY

Full Blues.—P. C. Alexander, W. B. Clegg, R. J. Drummond, D. N. Leeming.

Half Blues.—C. S. Darke, A. G. Heberlein, R. G. Hunt, J. A. T. Rowlett.

ASSOCIATION FOOTBALL

Full Blues.—L. E. Marshall, F. L. E. Musgrove.

Half Blues.—C. A. Boucher, R. L. V. Henderson, S. E. Osborne, L. B. Somerville-Woodiwis, F. J. R. Stoneham.

ROWING

Full Blues.—J. V. Clark, A. B. Wayte.

Half Blues.—A. J. Barrett, C. J. F. Blumenthal, R. F. Puset, T. R. F. Raw, A. N. Redfern.

FENCING

Full Blues.—D. H. Irish, D. M. Paterson.

Half Blues.—J. R. Forbes, S. W. Wright.

SWIMMING

Full Blues.—P. E. Cresswell, C. A. Styer, G. E. Walker.

Half Blues.—D. P. King, J. A. R. Smit.

RIFLE CLUB

Half Blues.—D. W. Harvey, R. J. Parfitt.

Obituary

MISS A. M. RICHARDSON

WE regret to announce the death of Miss A. M. Richardson, who died at 40, Ashville Avenue, Scarborough, at the age of 67. Miss Richardson was matron at the Scarborough Hospital and Dispensary for 25 years, retiring from that position on 31st December, 1924. Miss Richardson was trained at Guy's Hospital, having previously been at the Children's Hospital at Pendlebury. Subsequently she became a Sister at the Radcliffe Infirmary, Oxford, and took up her appointment at Scarborough from there in 1899.

During the war from 1915 to 1918, when it was impossible to get house surgeons, Miss Richardson and her staff at the hospital undertook the whole of the work.

In 1914 Miss Richardson was matron at a French hospital at St. Malo. For these services and those rendered at the Scarborough Hospital she was awarded the Royal Red Cross Decoration.

Miss Richardson was the second daughter of Canon Richardson, of the Cathedral of Argyle and the Isles, and was born in Millport, in the Island of Cumbrae.

High Blood Pressure

A Lecture delivered at Guy's Hospital on Friday, January 27th, 1933, by Maurice Campbell, Esq., O.B.E., F.R.C.P.

GENTLEMEN,—I should like to give you short notes of four cases. They will indicate the many guises under which high blood pressure may be found, and will enable me to show which of its many aspects I propose to discuss to-day.

The first, a young man of 23, regarded his symptoms as quite trivial until two weeks before he came to see me. For some months he had not felt quite as fit as usual and had not been able to run races in his accustomed time; he had suffered occasionally from vomiting and headaches, which he thought were a recurrence of the bilious attacks he had as a child. Two weeks before seeing me his vision had become blurred in the left eye, and examination of his eyes was enough to show Mr. Morgan that he had serious renal disease. I found a blood pressure of 240/150, with some enlargement of the heart and an accentuated second sound in the aortic area,

considerable albuminuria and casts, and albuminuric retinitis. A history of "hæmaturia" four years before, the presence of albuminuria when examined for life insurance two years before should, of course, have lead to a correct diagnosis much earlier, when more effective treatment might have been possible. As it was, little could be done, and, in spite of a period in hospital, he died from uræmia three months later.

The second, a man of 50, had always enjoyed good health; he was a hard worker who, when discharged from the army on account of his wounds, enlisted again and served a second period in France. He had been rather short of breath for two years, but able to carry on as a working master builder till four weeks before, when he was attacked by "bronchitis," and for three days had severe orthopnœa with rather profuse blood-stained sputum. After this his dyspnœa had been much worse. I found the blood pressure 190/140, the heart considerably enlarged with gallop rhythm, thickened arteries, a little albuminuria, and still some signs of congestive failure. With a reduction in his work and in his daily bottle of whiskey he improved for a time, but recovered less completely from a second attack of acute pulmonary œdema four months later. He died after a third more prolonged attack with gross congestive failure, eight months after his first real illness.

In these two patients the symptoms and signs indicated the gravity of the condition as soon as they came under observation—in the first case, the eye symptoms and the signs here and in the urine; in the second case the "pulmonary" symptoms and the signs in the heart. In both the blood pressure was very high, but that was not the real significant finding, as shown by the next two cases.

The third, a lady of 55, complained of pain in the left side of the chest, headaches, insomnia, with some dyspnœa, palpitation and giddiness, most of these rather diffuse symptoms having been present for two years. I found her blood pressure 250/140, with some enlargement of the heart and a constant mitral systolic murmur. There were, however, no signs of congestive failure and no albuminuria. Her prognosis did not appear too good, but now, seven years later, she feels better than she did then, and, provided she leads a fairly easy life and keeps to her extra rest, is able to carry on with few symptoms. There was no question of a single high reading of the blood pressure due to excitement; during the seven years the systolic has never been found lower than 220, and the diastolic never below 120 and rarely below 140. She is still without albuminuria at most examinations, but there is some degree of retinal arterio-sclerosis.

The fourth, a man of 63, was attending the back surgery for a minor injury to his finger, when an observant dresser noticed the hardness of his pulse. He had no symptoms of any sort, and was doing unusually hard work for his age as a dock labourer. But his blood pressure was 280/140, his heart was enlarged and his arteries thickened.

The contrast between the first two and the last two cases will be my central theme to-day; that the reading of the blood pressure matters relatively little, that what matters are the signs and symptoms associated with it. One patient with a moderate rise of pressure may be dangerously ill, while another with extremely high pressure may have a fairly good outlook. The old man I mentioned last continued his hard work for some time, and then I lost sight of him. And though he may have died of cerebral hæmorrhage, I think it probable that his high pressure may have been present many years without causing symptoms or militating against his apparent fitness.

I am glad of the opportunity afforded by the first case of emphasising the importance of examining the urine, because some of the things I shall say later rather minimise the significance of albuminuria in a certain type of case, and I should not like you to think that I did not regard it as almost the most important part of the examination in many patients with high blood pressure. And the other point to realise from that man's case is the importance of the examination of the retina. That, and the examination of the heart and arteries and of the urine often go a long way towards settling the kind of patient you are dealing with, and what is their outlook.

THE FREQUENCY OF HIGH BLOOD PRESSURE

The importance of any condition depends partly on how common it is, and no one doubts the extreme frequency of high blood pressure. I shall take first some statistics concerning the total deaths in England and Wales, my figures being from the Returns of the Registrar-General for 1930. In that year there were 445,000 deaths. Taking those given as due to heart disease, and adding a certain number classified as diseases of the nervous system, *i.e.*, the cases of cerebral hæmorrhage, etc., and some classified as diseases of the renal system, in which there were heart changes secondary to chronic nephritis, a total of 150,000 were due to cardio-vascular disease, or more than one-third of the total.

The Registrar-General's Returns do not give such detail about the deaths that one can settle exactly what the types of cardiac disease were; for that, one has to turn to the greater detail afforded by hospital post-mortem statistics. One of the best series of that type you will find in Cabot's book, "Facts on the Heart," in which he analyses 4,000 consecutive post-mortems at the Massachusetts General Hospital. He found in 1,500 of these 4,000 that disease of the heart or cardio-vascular system was the main cause of death, though sometimes associated with some other illness. That is rather more than the proportion of one-third which I arrived at from our own Registrar-General's statistics, and shows that this is a good general estimate.

In hospital, with the enormous number of rheumatic cases admitted, one readily attaches too much importance to these cases; they are not as common as one would gather. Even on Cabot's hospital figures, less than 400 of the 1,500 with heart disease were rheumatic cases, including all types of valvular disease, and all the odd and rarer types of endocarditis and pericarditis in this group. All types of syphilitic heart disease were responsible for less than 100 cases. In other words, two-thirds of the whole had myocardial disease without valvular changes, often with arterial and renal changes suggesting the presence of high blood pressure. Clinical evidence was not sufficient to show how many of these had high blood pressure, and in how many of them the arterial disease was primary. We have to turn to our own clinical figures to get evidence of this.

In 400 consecutive cases sent to the Cardiographic Department, *i.e.*, only selected because they were primarily cardiac patients, 72, or 18 per cent., had high blood pressure. In the last 300 private patients I have seen with reference to their hearts 76 (or 25 per cent.) had high blood pressure. So you may say that 20 per cent. is about the incidence of high blood pressure in series of cardiac cases. Taking this with the previous statistics, it suggests that of the big group where you have arterial disease and myocardial changes, about half have mainly arterial disease with normal blood pressure, and about half have high blood pressure, sometimes with fairly good arteries, sometimes with bad arteries as well.

AGE AND SEX INCIDENCE

I have taken 100 consecutive cases, some seen in hospital and some in private, for the age and sex incidence, to see in what type of people one can expect to find high blood pressure. It may come on at any age, but there is a higher frequency at certain ages. Men are rather more frequently affected than women: 55 males, 45 females. Some 70 per cent. of the cases are between the ages of 50 and 70. It is not so common to meet with it under 40 years of age, and it is commonest between 55 and 65. In the age incidence there was no substantial difference between men and women, perhaps slightly more in women round about the menopause.

TABLE I.

Age Incidence in 100 *Cases of High Blood Pressure.*

Age.	Number of Cases.	Age.	Number of Cases.
29 and under	3	55-59	18
30-39	2	60-64	29
40-44	5	65-69	14
45-49	9	70-74	7
50-54	10	75 and over	3

STANDARD OF NORMAL BLOOD PRESSURE

The next question is—What do I mean by high blood pressure? and perhaps it would have been more logical to start with this. Also one must consider what are the best ways of taking it. You must allow for the fact that when a patient is nervous he frequently shows a rise of blood pressure; you should have the patient comfortable while the reading is being taken, and if the figure is above the limits which you regard as normal, you should take it several times in fairly quick succession. If there is any change you take the lowest of them as the real figure. Frequently you will note a considerable drop in two or three minutes, the rise being momentary owing to the apparatus, which is strange to the patient, being put on. This is often less noticeable with in-patients, who are accustomed to numerous investigations being made. If you do not get a drop in two or three minutes, and yet suspect that your high reading is rather a chance one, you should take the blood pressure on a second visit without the patient being allowed to think in the meantime that he has high blood pressure. This you can take as a fair reading.

I would suggest the following rules for the actual measurement of the blood pressure; they are largely based on the conclusions of the Assurance Medical Society.

1. The mercurial manometer is the more accurate. The aneroid type is more likely to develop

errors and should be tested against a good mercury manometer each few months.

2. There are two methods of taking systolic pressure: (*a*) By palpation—after inflating the armlet air is allowed to escape until the radial pulse just re-appears, this point giving the systolic pressure; (*b*) By auscultation—after inflating the armlet air is allowed to escape, and the point of appearance of a loud sound with the stethoscope over the tracheal artery in the bend of the elbow gives the systolic pressure. A fainter sound is often heard about 10 mm. higher than this. Both these methods should be used to check each other and to avoid the error sometimes due to the "silent phase,"; the armlet should always be inflated to a point well above the suspected reading.

3. The diastolic pressure, which it is just as important to record in every case, can only be obtained by auscultation. As more air is allowed to escape the loud "bumping" sound is *suddenly* replaced by a weaker sound, which soon disappears. The point of sudden change is the diastolic pressure. If the sudden change cannot be heard, the point of disappearance of all sound may be taken. In some cases of aortic regurgitation it will be difficult to obtain any figure.

4. A pulse pressure of less than 30 suggests an error of observation, except in a small child.

5. The diastolic pressure is specially important, because it is less liable to variation with excitement, etc.

NORMAL BLOOD PRESSURE

There have been many statistical investigations with the object of determining what should be taken as a normal range. The old standard of 100 plus the age as a measure of the systolic pressure has been criticised as allowing too much for age; it is also too strict a standard for younger patients. One large investigation is an American Life Assurance one, comprising about half a million people who were accepted as normal lives. On these figures the average is given with reasonable accuracy by 100 plus half the age. The diastolic is given by 75 plus one-quarter of their age, and I would suggest using these as a standard. One must remember that these figures tend to be low because someone whose blood pressure is higher than is usual may be rejected, and so not used in making up the average figures, on these grounds alone; and yet subsequent investigation of his life might show that he remained quite fit in every way. Table II also shows the average figures, and they approach close to the formula I have just given.

TABLE II.

Average and Range of Normal Blood Pressure.

Age.	Observed Figures.		Suggested Average and Range.	
	Systolic.	Diastolic.	Systolic.	Diastolic.
20	120	80	120±15	80±10
40	126	84	130±15	85±10
60 and over	135	89	140±15	90±10

But more important than the average figures is, what can you regard as the ordinary range of variation from those? I think it is about *plus* or *minus* 15, and that you cannot say there is anything unusual in any figures which are within these limits. The diastolic figures, being smaller, show a smaller range of variation. They may certainly be counted as normal if 10 mm. above or below this average range. I will give some evidence for this later. Any human element, such as weight or height or intellectual capacity can easily vary 15 per cent.; indeed, the last can vary enormously more than this in people who are regarded as quite normal. It is interesting that the series showing the lowest average figures where age had least effect was obtained in prisoners in an American prison. Presumably the easy care-free life accounted for this, and it is not without significance from the point of view of ætiology. The average was higher among the warders.

It is inconvenient having to use a different standard of what should be called high blood pressure in people of different ages, and in practice I do not classify anyone as having high blood pressure unless he goes just above this range, even for the higher ages, *e.g.*, at or above 160/100. I do not think a patient with 155/95 is definitely high enough to be regarded as pathological at these ages; at younger ages such a figure, or even a lower one, is certainly suspicious, and would call for careful investigation of the patient, and perhaps for prolonged observation, but I have not included any such cases in the group as definite high blood pressure. I should like to give you details of some patients of this type where observation for years has shown satisfactory progress with no further rise of blood pressure, but must omit this to-day.

THE RANGE OF HIGH BLOOD PRESSURE

After considering these figures it is interesting to take the relationship between the systolic and diastolic pressures as they increase. These figures were made out from the averages of cases of my

own, and they fit into a regular scale. As you start from 160/100 you find that for every 10 mm. rise in the diastolic there is an increase of 20 mm. in the systolic.

TABLE III.

Systolic and Diastolic High Blood Pressures.

Actual Figures from 100 Cases.		Average Standard.	
Systolic.	Diastolic.	Systolic.	Diastolic.
160	102	160	100
170-189	110.5	180	110
190-209	121.4	200	120
210-229	132.3	220	130
230 and above	139.5	240	140

There are two important points with regard to the gradual rise in the systolic and diastolic pressures together. If you see a patient whose systolic pressure is very low compared with what is expected from the diastolic, it is likely that you are seeing a stage of cardiac failure, in which the systolic pressure was much higher before the onset of failure. So when you find a reading 170/130 and see from that standard that 220/130 might be expected, it is possible that the low systolic pressure represents some degree of myocardial failure.

When there is a much wider spread of systolic and diastolic pressures than expected from this table, provided it is not due to aortic incompetence, it is likely to be due to two other factors : atheromatous changes in the aorta or the high pulse pressure which you often find in toxic goitre.

Atheroma is so commonly found in the post-mortem room in people over 60 that we are inclined to think it is not very important. It is extremely important in two ways. The atheromatous changes may spread to the mouths of the coronary arteries and produce angina pectoris, but quite apart from this danger, with which we are not concerned here, it produces changes in the aorta itself which react on the heart. In text-books on physiology there is a diagram showing the degree of distensibility of the aorta at different pressures. The aorta is stretched most easily at the normal blood pressure figures, *i.e.*, it will accommodate the volume of blood driven into it by each heart beat with least change of pressure ; as the pressure is raised it needs more force to stretch it, and if the pressure is unduly high it will need a much greater stretching force, *i.e.*, pulse pressure, to accommodate the same volume of blood. Atheromatous changes in the aorta add considerably to the work of the heart in this way. Similarly the diastolic pressure not only adds to the work of the heart by making it pump out the blood against a higher resistance, but also makes it harder for the heart to distend the aorta, and so doubly adds to its work. This shows why the diastolic pressure is of such great importance and that a small rise of systolic pressure only is relatively unimportant.

PROGNOSIS WITH A SMALL INCREASE OF BLOOD PRESSURE

The next question I want to touch on, shortly, is that of prognosis where there is only a small increase of blood pressure. I shall first take some general figures ; afterwards I will take the more detailed examination of the patient which will help you to put him into the proper class. When one stresses the importance of a rise of blood pressure some people are struck by the patients they have seen who have done well over long periods, and whose rise of pressure does not appear to matter, and are inclined to attach little importance to the subject. That is true of some cases, but it is not true over large series of figures, and therefore we have to try and pick out from among high-pressure cases those in which the rise does not matter very much, and those in whom it does matter. This is all the more important because it is very easy to produce much undue worrying about the blood pressure in neurotic patients.

Table IV is based on more than 4,000 people who were accepted for life assurance after examination, though their blood pressure was higher than the standard. The average rises were only *plus* 20, *plus* 30 and *plus* 40 mm. above the standard for the age ; so if they were people of 60 they would represent the figures 160, 170 and 180. Where the blood pressure was increased by 20 mm. above standard the deaths were 32 per cent. more than would be expected ; by 30 mm., 71 per cent., and by 40 mm. the deaths were 110 per cent. more than would be expected. The upper half of Table IV shows the proportion who died compared with the expected number of deaths. Small increases of blood pressure are therefore of considerable importance over big series of figures.

It is important to emphasise again that because some patients with a small increase of blood pressure do badly, it does not follow that all will do so, and much of the remainder of this lecture is trying to divide up these two groups so that appropriate treatment and advice may be given.

TABLE IV.

Increased Mortality from High Blood Pressure (Life Assurance Statistics).

Increase of B.P. above Average Standard.		Ratio of Actual Deaths to "Expected" Deaths=100.
Range.	Average.	
+16 to +25	+20	132
+26 to +35	+30	171
+36 to +45	+40	210
All Cases with Increased B.P., subdivided according to age of applicant.		
15-39		97
40-49		227
50 and over		132

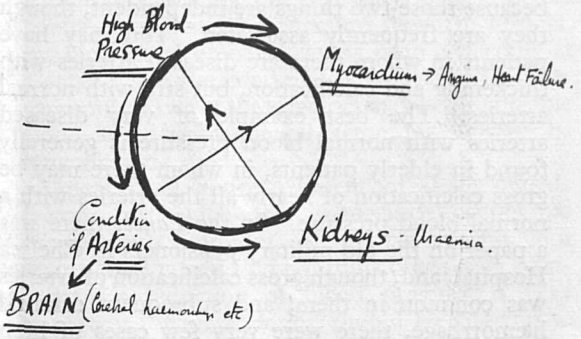
The lower half of Table IV shows the same cases divided according to the age of the applicant when passed for life assurance. There is a rather unexpected finding, for an increase in blood pressure in patients under 40 did not result in any greater mortality than was expected; it was, in fact, 97 instead of 100. The probable explanation is that young patients with serious types of high blood pressure had generally been excluded on a finding of albuminuria, renal disease being at that age the most common cause.

These statistics are one of my reasons for suggesting you may be generous with a moderate increase of blood pressure at younger ages (provided there is no albuminuria), and may still use the standard figure of 160/100 as a dividing line.

Even a moderate increase of blood pressure is a very much more important matter from 40 to 49 years of age than at any other age. The mortality was more than doubled in that decade 40 to 49, but it was only increased by 30 per cent. in the older patients. One of the generalisations, therefore, when you find blood pressures exceeding the normal standards in patients of 40 to 50 is that you must regard it much more seriously than in older patients. It will always call for a most careful examination of the patient, and nearly always some features of the patient's life will call for re-adjustment. With older patients, even with a little albuminuria, less interference is often needed.

GENERAL CONSIDERATIONS

In this diagram I have attempted to show the relationship of the four main factors which have to be taken into account in that large group of cases,—some called arterio-sclerosis and some chronic Bright's disease—the blood pressure, the arteries, the heart muscle, and the kidneys.



Taking first cases of primary renal disease, where chronic interstitial nephritis is the cause of high blood pressure, there is always a serious outlook, and you may find it at any age. It is the predominant cause of very high blood pressure in younger patients up to 40, and explains why the outlook is generally so serious in these cases. If examination of the urine shows much albumen and many casts it is almost certainly interstitial nephritis. Frequently the retinal examination alone, with the signs of renal retinitis, will enable you to make that diagnosis, that the renal disease is primary, and the effect is through the kidney. The end result in this type is generally a failure of renal function, the patient dying of uræmia, but it may happen that the rise of blood pressure produces myocardial failure or cerebral hæmorrhage before uræmia develops. In these cases the renal disease is the primary condition. To-day I am talking more about the group where such renal changes as may be present are secondary to the high blood pressure. The arrows in the diagram indicate that the renal disease acts by increasing the blood pressure and that the secondary effects apart from uræmia are produced through this.

If on the other hand the rise of blood pressure is primary, many secondary effects may follow, and the effects you notice may fall on different parts of the body. The high pressure may affect the heart muscle and produce failure. In other patients the condition of the arteries has not been good enough to stand the pressure, and

the patient has come under observation because of cerebral hæmorrhage or thrombosis. High blood pressure does not affect the kidneys directly; it is associated with secondary changes in the arteries, and these lead to ischæmic fibrosis in the kidneys with a slighter degree of albuminuria and often a few casts.

I have drawn a cross-line in the diagram between the condition of the arteries and the blood pressure, because those two things are independent, though they are frequently associated. You may have patients in whom there are diseased arteries with thickening and calcification, but still with normal arteries. The best example of very diseased arteries with normal blood pressure is generally found in elderly patients, in whom there may be gross calcification of nearly all the arteries with a normal blood pressure. In the *Lancet* there was a paper on the old military pensioners in Chelsea Hospital, and, though gross calcification of arteries was common in them, and subsequent cerebral hæmorrhage, there were very few cases of high blood pressure among these old patients. These are two variables, which you must consider separately.

METHODS OF EXAMINATION

What other steps can you take to decide if a rise of blood pressure in some particular case is of serious significance? I have mentioned urinary examination, and that is very important. If there is much albumen or many casts, the rise of blood pressure is secondary to nephritis, and it is a serious outlook. That may happen at all ages, but, as already stated, it will be a common explanation in patients under 40. But if the urinary findings are normal and the increased blood pressure only moderate, it is often of little importance to younger people, and may be merely a normal variant.

In the older patient, *i.e.*, 60 to 70, the presence or absence of a little albumen makes very little difference. Often these patients are treated much too strictly in the matter of diet because of the albuminuria. Even when a few hyaline casts are seen at this age, the prognosis may still be very good.

The cardiac symptoms and signs are also important, but if high blood pressure is associated with congestive failure, the prognosis depends on, and treatment is to be directed towards, the myocardial failure, rather than the patient's blood pressure. You will probably find, in such a case, that a reduction of blood pressure is no advantage at all, as the figure at which the patient maintains it is necessary for his circulation; and that if, by treatment, you were to produce a fall, he would feel much worse. Your treatment must be directed mainly to the particular symptoms of which he complains, whether they be angina, or paroxysmal dyspnœa, or congestive failure, rather than to the high blood pressure.

Two cardiac signs which you need to consider in all patients with high blood pressure apart from those whose primary symptoms are cardiac, are: (1) the size of the heart, (2) the presence or absence of a constant systolic murmur which is not cardio-respiratory. If the heart is not enlarged, it is very unlikely that a single high reading represents the true constant value, because one of the rules which is most regularly confirmed by post-mortem findings is that any patient whose blood pressure is persistently over 200 will show cardiac hypertrophy. So a normal-sized heart with a single high reading suggests that this is a temporary variation. The larger the heart, the more seriously it must be regarded.

An apical systolic murmur in this condition gives no indication of valvular disease, but frequently is due to a considerable degree of dilatation as well as hypertrophy, which has gone far enough to allow mitral regurgitation from the dilated condition of the ring; where this has come on recently it often indicates a further stage in the heart's downward progress, and causes you to think more seriously of it. Of course, many patients do well for years with such a systolic murmur due to a hypertrophied and dilated heart from high blood pressure, but it is more serious when the systolic murmur is of recent origin due to dilatation without corresponding hypertrophy.

As to the heart sounds, you are always on the look-out for the accentuated second sound in the aortic area, which may be one of the first things suggestive of high blood pressure in a particular case.

More important as a serious sign of heart failure is where you find gallop rhythm on examination. Sometimes it is caused by reduplication of the first sound, sometimes of the second sound. Where there is gallop rhythm with tachycardia and high blood pressure it is of extremely grave prognosis, suggesting a failing myocardium, and the end is likely to come fairly quickly.

Another important sign is pulsus alternans. If you wait until this forces itself on your observation you will probably have to wait a long time; gross cases of it are fairly rare. Slighter degrees of it are common, and you can detect it by using the blood pressure apparatus, finding half the beats coming through at, say, 210 and the other half at 190. You are likely to find this particularly in patients with high pressure and early signs of

a failing heart. Sometimes the symptoms are even more important than the physical signs.

The state of the arteries must next be considered. If a patient has diseased arteries, a small rise of pressure may be very important from the point of view of possible cerebral hæmorrhage. The radial and brachial arteries do not always give a good idea of the condition of the cerebral arteries, so there may be poor peripheral arteries and yet not much danger of cerebral hæmorrhage. A retinal examination gives a much better clue to the state of the cerebral arteries. The points to look for are the very narrow arterioles, where they have got beyond the "silver-wire" appearance and have come down to a narrow line, and where at the arterio-venous crossings the vein is distorted out of its course, sometimes with the blood banked up at that point. These show extensive disease of smaller arterioles, and make the outlook of the case more serious.

Generally, one has no symptoms to act as a warning of possible cerebral disaster, in the way, for instance, that dyspnœa gives a warning of the approach of cardiac failure. The only pre-hæmorrhage stage which you can sometimes recognise is when the patient has a monoplegia or aphasia, lasting for a very short time with complete recovery. There is much discussion as to what causes these attacks; they may be due to minute hæmorrhages, but more likely they are due to vascular spasm in an artery which is diseased and liable to be the seat of hæmorrhage or thrombosis later on. But often there is a long interval—it may be five, or even ten, years—and nothing further happens after the first episode. So when such an event has occurred and has not been repeated for a time, you should not think too seriously of it. To the patient certainly you should minimise its significance.

Frequently, then, examination of the urine and heart and arteries may give you a definite reason for regarding the rise in blood pressure seriously. If you cannot find anything much wrong with these three you can be very reassuring about the rise in blood pressure, and you will see large numbers of patients whose general health, ten years after you first detected a high blood pressure, is still satisfactory—I mean figures which are grossly abnormal, like 220/130. These people often do well for long periods, and some say they are able to do more than they did before when their symptoms have been improved with treatment.

Another thing which you must always remember is the patient's weight. A certain type, when putting on weight, gets a rise of blood pressure. A reduction in weight may cause a great change in blood pressure and associated symptoms, though sometimes, but less commonly, a patient will lose weight without the corresponding reduction in blood pressure.

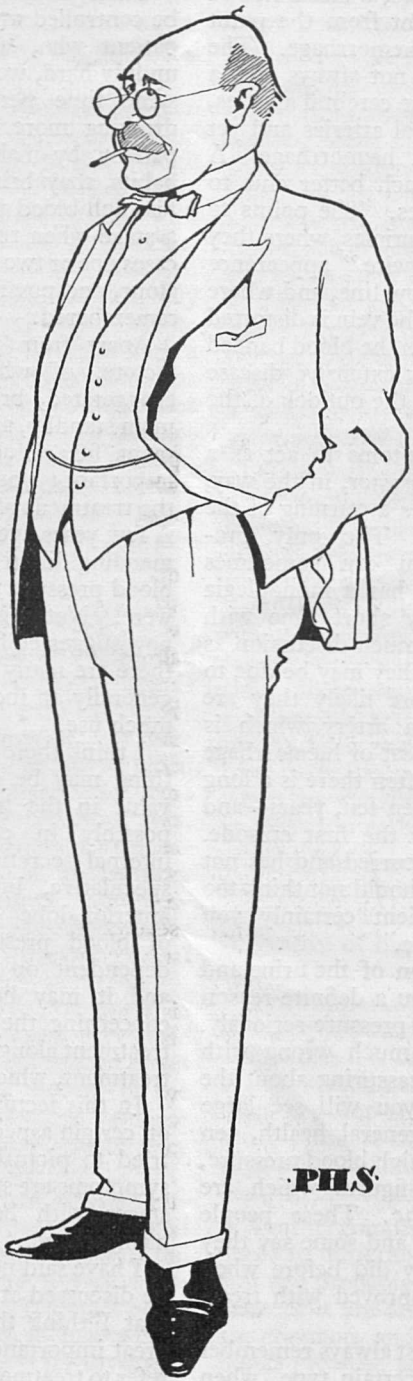
Other outside factors in their life which can be controlled must be inquired for. There is the patient who, without gross excess, is working unduly hard, worrying about his work, and at the same time perhaps, eating and smoking and drinking more than is good for him. Such a patient, by making the necessary change in his habits, may bring his pressure down to normal, his high blood pressure having been a warning at a stage when the condition is curable. In other cases one or two of these factors may be responsible alone, and possible mental factors must always be remembered.

Apart from your treatment of these outside factors, of which the importance cannot be exaggerated, bromides and iodides remain your main standby, and I do not think other drug treatment for reduction of blood pressure is very important; your attention should be directed to the treatment of any symptoms which are present. A few years ago I kept a list of all papers recommending different drugs for the treatment of high blood pressure; I was surprised how many there were. Nothing like that number of remedies is now suggested for diabetes, for instance, and when there are many drugs suggested for anything it is generally an indication that no one of them is of much use.

I think there are many lines along which something may be discovered of definite therapeutic value in the treatment of high blood pressure, possibly in connection with some of the internal secretions. Admittedly this is merely speculative, but in basophil adenoma of the anterior lobe of the pituitary there is a rise of blood pressure in young people, which is dependent on some internal secretion change; and it may be that our increasing knowledge concerning the pituitary may lead to some new treatment along that line, in addition to the present treatment, which is mainly general and hygienic.

In this lecture I have only been able to touch on certain aspects of high blood pressure. I have tried to picture more the early cases where the symptoms are still general, rather than the terminal stages with heart failure, uræmia or cerebral hæmorrhage.

I have said nothing about ætiology, which could be discussed at great length; I will only say here that I think the inheritance and constitution of great importance. And I have only been able to refer to treatment shortly in the last few paragraphs—a subject which could fully occupy a whole lecture. In the early stages there are very few patients for whom one cannot do a great deal.



"D.—C."

Dental After-Pain

A Paper read before the Dental Society, Guy's Hospital, by J. R. C. Hindle, Esq.; followed by a Casual Communication by C. I. Hagger, Esq., entitled, "A Case of Uneruption."

MR. CHAIRMAN and GENTLEMEN,—Pain following extractions, whether such extractions be single or multiple, is of fairly common occurrence, arising, in some degree, in about 12 per cent. of cases. We are far too liable to think that after-pain is a sequel peculiar to extractions with local anæsthesia, and either do not know, or knowing, forget, that it occurs with almost equal frequency after similar operations with general anæsthesia, or when no anæsthetic at all has been used. Indeed, some authorities go so far as to state that, in their opinion, after-pain is *less* common and of *less* severity with local anæsthesia, because the effect of the anæsthetic takes some time to wear off, and therefore diminishes pain for a variable period.

Such statements, of course, are only opinions, as no definite figures can be given to compare the incidence of pain with local and general anæsthesia. This is owing to the fact that in almost every case the conditions are different in one direction or another, and patients' statements are also extremely varied, so that no accurate comparison can be made. Steadman, however, has kept careful notes of 300 successive cases of extraction with local anæsthesia, and of a similar number with general anæsthesia, and his conclusion is that the incidence of after-pain is much the same whichever type of anæsthesia be employed.

It will frequently be found that after-pain following a local anæsthetic will be blamed by the patient on the anæsthetic itself, whereas he would never think of blaming a general anæsthetic in similar circumstances.

In this connection, the following case, recorded by Steadman, is interesting: "After a local anæsthetic, a patient complained of pain in the lower incisor region after the removal of the incisor teeth, and attributed this pain to the injection, which, however, was a mandibular injection. There was no pain whatever at the site of the injection."

After-pain is not in any way due to the action of the novocain or other local anæsthetic, although it *may* be due to its faulty administration. There is, however, stated to be a slight tendency for a local anæsthetic to delay healing to a certain extent, and thus increase the chances of infection and consequent pain.

After-pain varies very considerably in its severity. In some cases it will be limited to a slight superficial soreness, whilst in other cases the pain may be intense. It varies also in duration, and usually the less severe it is the sooner it passes off. It may last only for an hour or so, or it may continue for several weeks.

The character and occupation of the patient may influence its severity very considerably. A busy person, with a hundred and one things to occupy his mind, will scarcely notice the pain unless it be severe, whereas, for instance, an elderly spinster, complete with pekingese, canary and aspidistra, would describe a similar amount of pain as "unbearable" or "agonising."

Another general factor influencing the degree of pain is the bodily health of the patient. A healthy patient is less likely to have after-pain than one who is "run down" or convalescent after an illness, and whose resistance is low.

Then again, a patient seen the day after an operation will give a more lurid account of after-pain than he would if seen a week or so afterwards, when any discomfort he may have had will be almost forgotten. The patient may also tend to exaggerate pain owing to his being unprepared for it. If an operation has been difficult, or the socket is septic, as with extractions on the grounds of alveolar abscess, etc., the patient should, for this reason, always be warned that after-pain may occur, and that he must not be alarmed by it. An additional reason for this warning is that a patient warned of trouble *before* it occurs will think it inevitable, whereas your prestige may suffer severely if you are under the necessity of explaining it away *afterwards*.

By far the commonest actual cause of after-pain is sepsis. This may be due to conditions existing before the operation, such as alveolar abscess, apical osteitis, paradontal disease, etc. In a mouth which is in a septic condition, much after-pain can be prevented by a course of preliminary treatment to reduce the sepsis. Thus, all tartar should be removed with suitable instruments, unless it is very firmly fixed (as in that case it is not likely to be dislodged by the forceps), and pyorrhœa pockets syringed gently with hot dilute carbolic acid, or atomised with hydrogen peroxide solution (10 volumes). It is also in some cases advisable to relieve the tension in an acute alveolar abscess by an incision, which will give the patient considerable relief, and to postpone the extraction of the offending tooth until the most acute stage has passed. By this means the recovery of the

tissues will be accelerated, and the risk of a generalised infection lessened.

Sepsis, again, may be caused by a faulty technique in the operation itself. This source of sepsis will be considered in more detail later. There are also various post-operative causes of sepsis, chief among which is allowing food stagnation in the socket, which thus becomes a "happy hunting ground" for bacteria of various kinds. Another post-operative cause of sepsis is the holding to the mouth of an infected handkerchief. This is less likely among well-to-do patients, but is quite common among patients from neighbourhoods such as the Borough, for instance, who frequently unearth a handkerchief which was (presumably) once white, but has by now attained a delicate shade of mid-grey. Patients will sometimes apply dirty fingers to the wound, thus introducing another possible cause of trouble through sepsis.

Whilst discussing sepsis, mention may be made of the possibility of the margin of a socket healing over too rapidly, and thus retaining septic material. Like most septic conditions connected with sockets, this is more likely to occur in the mandible than the maxilla, owing to the difficulty of obtaining satisfactory drainage in the former.

After-sepsis, the next most common cause of post-operative pain is trauma due to the actual operation. It is not possible to draw a hard-and-fast line between the amount of damage to tissue which is necessary or permissible, and such extra damage as would constitute careless or faulty technique. The amount of damage done should always be as little as possible, as laceration of the gingival margin and fracture of the alveolus may cause very severe pain afterwards. In many cases much injury and subsequent pain may be avoided by removing a tooth by surgical methods. For example, if a tooth is known to possess considerable exostosis, there will be less laceration if the gum and alveolus are neatly cut through with the appropriate instruments, than if forceps are used in the ordinary way, leading to fracture of alveolus and tearing of the gum. As a bone-cutting instrument, a chisel will cause less after-pain than a bur on a dental engine, owing to its cleaner cut. If the root of a tooth is fractured, and part is left in position, considerable pain may ensue, although a small piece of root will not cause any immediate trouble. If the operator is unsuccessful in removing a root, rather than make prolonged attempts which would lead to unnecessary damage to the tissues and consequent pain to the patient, the postponement of the operation for a day or two, unless urgent, will frequently be found to benefit both patient and operator, as the root will be loosened by the reaction to the previous attempt, and may often be removed extremely easily, with results for more comfortable from the point of view of the patient. If the root be small, it may be left until it is extruded by the tissues.

The expression "faulty technique" may be said to cover a multitude of sins. Although faulty technique also covers unnecessary damage during general anæsthesia, and similar accidents, I intend to refer here more to mistakes in local anæsthesia, as it is this branch of exodontia that contains more possible pitfalls. These may conveniently be considered in two classes, first, faults in connection with instruments and methods, and secondly, faults in the actual anæsthetic solution.

Let us, then, consider faults in instruments and methods. A blunt needle is a painful weapon to the patient, as is one in which the cutting edge has become ragged. Care should be taken not to scratch the periosteum with the needle, and injecting into a muscle or ligament should also be avoided. Neither will the patient approve if an injection into a tense tissue, such as the mucoperiosteum of the palate, is made too rapidly, although when injecting into tissues of looser structure the injection may be carried out with more speed without ill-effect. In the extraction of a lower third molar, incorrect or careless use of a straight elevator may cause damage to the periodontal membrane on the distal surface of the second molar, and consequent pain. Damage to a nerve trunk, though fortunately rare, is also a cause of pain, although when it does occur it is often not due to any fault of the operator, but rather to peculiarities of anatomical structure, such as piercing of the third molar by the mandibular nerve.

Sepsis may be introduced into the tissues by the use of unclean forceps and elevators, but insufficient precaution with regard to the sterility of the syringe and needle is more likely to lead to serious consequences, as by this means the sepsis is introduced deep into the tissues through a wound with only a small opening and little or no drainage. It must be remembered that as soon as the needle touches mucous membrane it becomes infected, and therefore the surface which the needle is to pierce should be dried, and swabbed with iodine to sterilise it as far as possible. Care should also be taken that the patient does not contaminate this area again with the tongue before the injection is made, and that the needle is not allowed to touch any part of the patient's mouth other than the actual area of injection.

The solution, again, may be a source of infection if insufficient care is exercised in its preparation, or if a proprietary solution is used without proper

precautions. It should be remembered that when a solution is drawn from a bottle by a syringe, it is replaced by air, which in all probability contains pathogenic organisms in profusion, and if the solution is kept in contact with this air for any length of time, its infection is certain. To combat this danger, various local anæsthetic solutions containing antiseptics have been produced. The use of these should be avoided, as any antiseptic which is effective in killing micro-organisms is also a tissue irritant, and its injection may cause subsequent pain of some severity.

The practice of filling a syringe a second time from a novocain cup, without sterilising the syringe after the first injection, cannot be too strongly condemned, as by this means the whole of the solution remaining in the cup is contaminated. It may be argued that since the bacteria came, in the first place, from the patient's own mouth, they are not likely to do him any harm. This view is quite incorrect, as bacteria which are normal inhabitants of the mouth, and quite harmless on the surface of the mucous membrane, may cause a great deal of trouble if introduced deep into the tissues by the injection.

An injection made with the solution too hot or too cold may cause after-pain, as may also the use of stale distilled water or Ringer's solution in making up the novocain for injection.

Another important defect which may arise in a novocain solution is non-isotonicity. Prolonged boiling of a solution to insure its sterility will lead to loss of bulk by evaporation. Unless this loss is made good by the addition of distilled water (*not* Ringer's solution), a hypertonic solution (one too rich in salts) is produced. The cells with which this solution comes in contact as a result of the injection will lose part of their fluid contents by osmosis, and become shrunken and wrinkled. A hypotonic solution (one poor in salts) will produce the opposite effect; the cells swell up, and may even rupture. Both of these conditions cause after-pain.

"Dry-socket" is also a painful condition. This is due to the adrenalin in the solution exerting too great a vaso-constrictive action, and delaying the healing by preventing the socket from filling with blood clot. The protective action of the blood clot upon the injured tissues is also missing, and the consequent exposure of nerve-endings is often extremely painful. The excessive action of the adrenalin does not necessarily mean that an excessive quantity was used, but rather that some local condition, such as apical osteitis, has favoured its action to an unusual extent. In these cases there is often an extreme degree of blanching in the injected area, and the operator, warned by this, may find that a quantity less than he had anticipated is sufficient for his purpose, and he will thus be less liable to cause "dry socket" than if he injects the full quantity.

Closure of the bite after extractions with either local or general anæsthesia may cause pain through teeth which have lost their occlusion biting on to the already injured gum. Before this can occur, of course, the majority of the teeth must have been lost. Damage to the gum may also be caused by carelessness or over-enthusiasm in the use of a Mason's gag, either if wrongly applied to the sulcus, or if used with much force on newly-opened sockets. Another traumatic cause of pain of occasional occurrence is the accidental involvement of the maxillary antrum. The resulting condition usually clears up without much trouble, but occasionally a root or even a whole tooth is pushed into the antrum, and may cause awkward complications.

The treatment of post-operative pain is usually very simple, although obstinate cases sometimes occur. The best treatment, of course, is prevention. Although in many cases this is not possible, careful attention to details of technique will considerably reduce its incidence. All operations should be carried out as aseptically as possible. It is well known that the mouth is always well supplied with bacteria, both pathogenic and otherwise, but that is no excuse for introducing more. The solution and all instruments used in the mouth should be sterile, and the mucous membrane, as mentioned before, swabbed with iodine immediately prior to the commencement of operations, and not allowed to become contaminated before the injection is made. Instruments should be kept sharp, as a blunt or ragged edge will cause unnecessary damage. Whilst it is often, and quite rightly, advocated that one should "go wide" to extract a root when in doubt as to its extent, it should be remembered that damage done in this way is often very painful afterwards, and should always be avoided unless absolutely necessary.

If the edges of the alveolus have been fractured, the loose fragments should be removed and the edges of the socket trimmed up. Pieces of gum which are damaged and unlikely to heal owing to disorganisation of their blood supply should also be removed.

If a "dry-socket" occurs, the socket should be squeezed between finger and thumb, and the patient should then be encouraged to create a partial vacuum inside the mouth as in the action of sucking. If this fails to start the bleeding, the socket may be wiped out with a pledget of cotton

wool soaked in pure carbolic acid, and then lightly scraped with a probe.

A mouth-wash will often give considerable relief in cases of after-pain, and massage of the gum is also useful. A carbolic mouth-wash of a strength of 1 in 100 is probably the best, besides being one of the simplest. A mouth-wash, in these cases, should always be as hot as can be borne; in fact, it is sometimes a good plan to instruct the patient to make it as hot as he can stand, and then just a little hotter; otherwise he is often inclined to use it warm, as being more comfortable at the time. The mouth-wash should be held in the mouth for at least a minute at a time by the clock, or much of its benefit will be lost. Besides its mechanical cleansing effect, a carbolic mouth-wash is also an analgesic, which is an added advantage. Frequent syringing of the socket with hot dilute carbolic acid or eusol may be of great assistance, especially when sepsis or food stagnation is present.

A small ice-pack, such as may be made in a rubber finger-stall, will often relieve pain, or, if much sepsis is present, hot fomentations either inside or outside the mouth may be necessary. Hot flannels applied to the face may also be tried. Radiant heat, ionisation, and the high-frequency current have all been suggested for the treatment of after-pain, and if they are available they should certainly be used if other methods fail.

Drugs for the relief of pain are numerous, and almost every authority gives a different one as the one which meets with the greatest success in his own practice. For local application, novocain, in powder form, is useful. It may be applied either by dusting it on to the wound and then packing *lightly* with a small quantity of iodoform gauze, or it may be mixed into a paste with vaseline and gently packed into the socket. If the taste and smell of iodoform gauze are found too offensive, 10 per cent. boric acid gauze may be used in its place. Instead of novocain, either orthoform or anæsthesin, which have similar properties, may be used, and these have the advantage that they are not easily soluble, so that their effect is more lasting. An aspirin tablet may be powdered and used with vaseline in the same way.

A pledget of cotton wool soaked either in tincture of guaiacum or in dentalone, which is a solution of chloretone in essential oils, may be left in the socket for as long as 24 hours, if necessary, and in most cases gives speedy relief.

In some cases it may be necessary to administer drugs internally. Of these, the safest and one of the best is aspirin, in doses of 5 to 15 grains, followed by a glass of hot milk. Hypnotic drugs, such as morphine, hyoscine, codeine, allonal, veramon, etc., either internally or hypodermically, may be necessary in extreme cases, but the administration of these drugs is best left in the hands of medical colleagues.

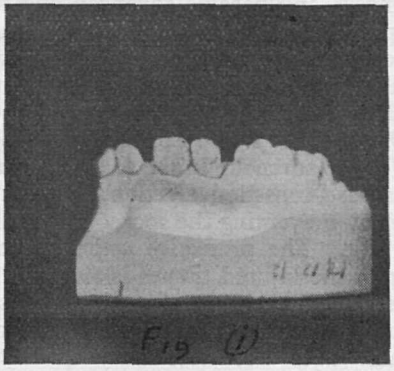
To sum up the whole question of after-pain, it may be said that whilst in many cases it is unavoidable, its incidence and severity may be greatly reduced by careful technique, and attention on the part of the patient to the cleanliness of the field of operation. It is also comforting to reflect that, whilst the means of treatment that may be suggested may be various and apparently drastic, in the vast majority of cases the use of a hot mouth-wash, and syringing if necessary, will do all that is required, and the condition will clear up without further treatment.

A CASE OF UNERUPTION

The eruption of teeth is, I think you will agree, one of the physiological processes on which our ideas are very hazy and incomplete. I was persuaded, therefore, that a rather unusual case pertaining to this subject, which I encountered in the Children's Department, would be of interest to this Society.

I shall first describe the exact condition of the cases to you, then very briefly state the theories that have been advanced on the process of eruption, then discuss the cases in the light of those theories, and finally describe a few similar abnormalities that have been recorded.

A girl, aged 13 years, who was receiving orthodontic treatment, had a maxillary central incisor and one maxillary canine unerupted (*see* Fig. 1).

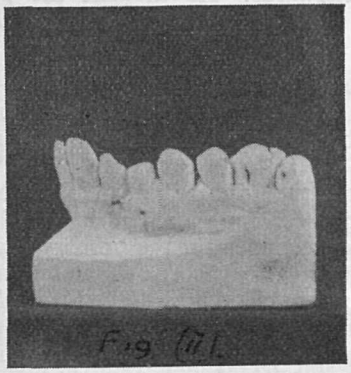


The canine, I had little doubt, would erupt within a few years, but the central incisor, which could be felt high up in the sulcus, seemed likely to remain there indefinitely. The teeth on either

side had begun to move together, and the object of the treatment being carried out was to preserve the space for the central, and, incidentally, push the erupted incisors over the bite.

While talking to the parent one day, I happened to notice that he still had his upper temporary canines in position, and, inquiring further, found that one of his permanent canines was just beginning to erupt in the sulcus (*see* Fig. 2).

It is worthy of note that both these cases were of the Class III type, *i.e.*, cases of true inferior protrusion. Heredity is the accepted cause of this condition.



The earliest theory attempting to explain eruption suggested that it was due to the mechanical pressure from the elongation of the root. There are several good objections to this theory.

The development and lengthening of the dental papilla or formative pulp is cited as a cause of eruption, and " Constant " suggests that the blood-pressure in the very vascular tissue around and beneath the tooth supplies the necessary force.

A rather ingenious theory that has been advanced says that a contractile force of the walls of the tooth sac, which is attached to both the neck of the tooth and the gum, is the active agent in eruption, acting much in the same way as the process by which the fœtus is expelled from the uterus. However, no elastic fibres have yet been demonstrated as present in the tooth sac.

The disproportionate growth in the tissues of the tooth and surrounding the tooth is suggested by Thornton Carter to account for eruption.

Professor Brash says eruption is controlled to a great extent by the natural alveolar bone growth.

Warwick James showed how a column of degenerated epithelium, derived from the tooth band and enamel organ, which was continuous from the tooth to the surface, was the means of guiding the tooth to its erupted position. There is also extensive absorption of bone above the tooth prior to eruption.

Thus we may justifiably conclude that eruption is not due to any one of these suggested forces, but is, most probably, a combination of factors.

Two processes are clear : (1) A force advancing the tooth ; (2) An absorption and rarefaction of the tissues above the tooth.

It would seem that in cases of delayed eruption it is the second of these processes which is at fault, and, as a tentative suggestion, it may be that the branching and malformation of this epithelial column causes the uneruption of the tooth, or abnormality of position on eruption. It is definite that small cysts arise from this epithelium, which may, if large enough, prevent eruption.

The cases I have mentioned provide good evidence against the first of the preceding theories, as, radiographically, the unerupted teeth all show fully formed roots. Nor can I see how the theory based on the unequal rates of growth of the tissues can apply to the canine which is erupting at the age of 45 years. A hereditary influence has undoubtedly played a part in this case, but it is to be remembered that it is the cause of the condition that has been inherited.

Other likely causes of uneruption are :—

1. Mental aberrance.
2. Early loss of the predecessor, with encroachment of the space by neighbouring teeth.
3. Supernumary teeth.
4. Pathological conditions of the tooth itself or the surrounding tissue.
5. The effect of rickets is to delay eruption.

The teeth most often delayed in eruption are the lower third molars, the maxillary canines, and the second premolars in each jaw.

With regard to orthodontic treatment, the space for the unerupted tooth should be retained, and, after waiting for a reasonable time to see if it will erupt without assistance, it is possible to fix an appliance to bring it into position. However, this is not always easy, and, alternatively, the space can be filled by an artificial tooth.

Several interesting cases of uneruption have been recorded. Gibson describes a woman, aged 24, with only seven milk teeth and no permanent teeth erupted.

A lateral incisor which began to erupt at the age of 40 years is recorded, and both Hopson and Messenger speak of adult cases in which radiographs revealed 20 or more unerupted teeth.

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C. I. HAGGER.

The Physical Society

ON Thursday, the 23rd of February, representatives of the Guy's Physical Society made their annual excursion across London to spend a very profitable evening, and, what is more, a comfortable and amusing one, with the members of the St. Thomas's Physical Society. The Guy's contingent was rather larger than usual, and, whether it was the generous hospitality that was offered or the fact that it included three Registrars and a batch of keen and learned Clinicals, there was no denying that for once its members had left their shyness behind, took a large part in the discussion, and had a *quid pro quo* ready for any of the points raised, even if it was only to agree.

The evening started with dinner in St. Thomas's Club and an opportunity to admire and be secretly envious of the comfort and luxury in which the students of St. Thomas's live—a feeling that became even more intense when we retired upstairs to discuss the cases later on in the evening. After dinner, the scene shifted to the Clinical Theatre, and there we joined in the queue that had already lined up to palpate abdomens and lumps that seemed to get more intriguing and more difficult as we got nearer to them. For our own part we found that, at this stage, our cerebration seemed a little sluggish, and it was with vague and indefinite opinions that we settled down to discuss the cases about half an hour later.

The first case was a neurological conundrum—a boy with internal hydrocephalus who gave a history of some nervous disease some years before. He had papillœdema, skew deviation of the eyes on looking to the right, pupils that reacted poorly to light, vertical nystagmus and proptosis which was worse on the right side. What was the most reasonable explanation of the hydrocephalus? Mr. Colbeck had little doubt that it was due to old meningitis, and he recounted a case that he had seen a few weeks previously who had died some days after a decompression. This diagnosis seemed to satisfy the demonstrator of the case, but, baited by the Chairman, Dr. Elkington then told us very lucidly why, in his opinion, it was a case of pineal tumour, and, combined with the physical signs, stressed the obesity, the increase in height and the sexual precocity as points in favour. Lumbar puncture and decompression he thought dangerous.

Discussion next centred around a large scirrhous carcinoma of the breast in a woman of 49. The demonstrator was against the application of radium here as there was ulceration of the skin, but he met with opposition from Mr. Northfield, who thought that by surgery alone it would be difficult to get the skin edges together, and advised preliminary implantation of radium. Here he was supported by Mr. Gill, who had read articles on radium treatment and was prepared to quote chapter and verse. The Chairman, Mr. Mitchiner, in summing up, said that it was his case, and that he was quite prepared to remove the growth as it was, and preferred to use X-rays or radium afterwards. He thought the prognosis was fairly good, and with his eyes set on Mr. Gill discussed some of the results of radium.

Two cases of the Cushing syndrome—basophil adenoma of the pituitary—followed, and were preceded by a capable synopsis of similar endocrine disorders. The first was in a boy of ten who had put on fat in the lower half of the face and trunk, had hair between the shoulders and on the chest, but poor development of the primary sex characteristics, with acrocyanosis, albuminuria, and a moderate rise in blood pressure. Mr. B. McArdle had read the literature and was not quite prepared to accept this case in the absence of striæ, polycythæmia, and more rise in the blood pressure. The second case—a girl of about 20—he regarded as more typical, as she showed these signs in addition. An interesting discussion followed, and both Dr. Conybeare and Dr. Bruce-Pearson enlightened our ignorance, and Mr. Colbeck became biological and agricultural.

A man was then shown with a deep-seated epigastric tumour, which many of us thought to be enlarged para-aortic lymph glands. Mr. Todd had examined the scrotum as well, and let the cat out of the bag early by disclosing that a testicle had been removed a year ago, and this lump could be nothing else than secondary teratomatous glands. The Chairman did not think that these growths arose more frequently in the undescended testicle, and that the prognosis was good on removal if there was no recurrence at the end of a year.

We next became involved in blood pictures. A young girl was diagnosed as acute lymphatic leukæmia some weeks previously, when she had generalised glandular enlargement, with anæmia and a white count of 60,000, 99 per cent. of which were lymphocytes or their precursors. After some acute febrile manifestation, in which she nearly died, she improved, her white count fell to 8,000, the hæmoglobin and polymorph percentage rose, and the glands regressed a little.

Alternative diagnoses such as glandular fever and Von Jaksch's disease were discussed, but the general opinion was that, in view of the persistent anæmia, and the presence of excess lymphocytes, she should still be called a leukæmia.

Two interesting bumps concluded the evening's discussion. A swelling in the lower end of the radius in a boy, which had been growing for a year following an injury without fracture, was diagnosed as a Brodie's abscess, X-ray showing much periosteal overgrowth with a central area of rarefaction; and a large fungating tumour on the skin of an old man, which had been present for ten years without any glandular enlargement, was left to Mr. Northfield to diagnose as a basal cell carcinoma to everyone's satisfaction, though Mr. Gill hankered after a Cock's peculiar tumour in the wrong site.

It only remained to thank the St. Thomas's Society for the interesting cases that had been collected and the capable way in which they were shown, and Mr. Mitchiner for his skill as a chairman, and the flashes of characteristic wit that made the evening so enjoyable.

Correspondence

"Death after Extraction"

To the Editor of the GAZETTE

SIR,—In view of the article on "Death after Extraction" in the current number of the *Gazette* the following notes may be of interest.

R. C. Male. 28 years.

Had complained of headaches for some months.

Four teeth extracted with gas in June, 1932.

One tooth extracted with a "local" in October, 1932.

Twelve teeth were removed under gas and oxygen on January 21st, 1932, given by a (correct me if I am wrong) unqualified but registered dentist. After the teeth were all extracted the patient was found to be pulseless. Restoratives were applied, but without result.

Post-mortem.—An apparently well-nourished subject. No external evidence of injury or disease. The neck was unusually thick. The condition of the gums did not suggest any unusual degree of injury. Hands clenched, finger nails dark.

Head.—No evidence of injury or disease. No exophthalmos.

Neck.—Enlarged thyroid, 4½ oz. Trachea flattened from side to side, ¾ in. deep, ¼ in. wide, but nothing to suggest a deficient airway. No evidence of swallowed blood, no swallowed tooth. Thymus enlarged for the age, 1⅛ oz., and composed of glandular tissue.

Thorax.—Old healed apical scars in both lungs, nothing recent or active, no hæmorrhages to suggest asphyxia.

Heart.—Hypertrophy of left ventricle, definite myocardial degeneration. Valves normal. Early atheromatous changes in the aorta.

Abdomen.—No evidence of injury or disease in any organs. Stomach empty. No enlarged lymphatic glands.

Cause of death.—This lay between several factors—the thyroid, the narrowed trachea, the thymus and the heart.

In my opinion the shock from the extraction of the 12 teeth was too much for his degenerate heart. The effects of the shock being exaggerated, as occurs in subjects with large thymus glands.

To show what a trivial injury may in an adult with lymphantism cause death the following case also may be of interest.

M. C. H. Female. 29 years. Refreshment room attendant.

No history of previous disease, but stated to be very "highly strung." Cut her hand on a bit of glass at about 10.40 p.m., bound it up herself with a bit of rag, fainted and never regained consciousness.

Post-mortem.—An apparently healthy subject. A small, shallow cut, ½ in. long and ⅛ in. deep on the palmar surface of the right hand between the thumb and the index finger. Skin stained with iodine. Nothing of moment had been cut. Loss of blood trivial.

Head.—No evidence of injury or disease. Tonsils large and infected.

Neck.—Thyroid large but healthy. Thymus large, 1½ oz. No evidence of obstruction or injury to trachea.

Thorax.—Lungs normal and healthy. Heart small, very soft, definitely brown in colour. Valves normal.

Abdomen.—No evidence of injury or disease of the abdominal or pelvic organs. The lymphatic glands of the abdomen were slightly more in evidence than is usual. The Peyers Patches were very well developed and the solitary lymphatic nodules of the lower gut slightly more definite than normal, though by no means to the extent found in young children.

Cause of death.—In this case there appeared to be no alternative to the diagnosis of syncope from shock in a subject suffering from lymphantism.

I feel that this latter case is most important, as it is completely free from even the hint that someone was being shielded behind an enlarged thymus.

Yours, etc.,

T. SKENE KEITH, M.B.

79, Wimpole Street, W.1.

"Literary Gems" from Africa

To the Editor of the GAZETTE

SIR,—I enclose herewith two letters from a native clerk in the employ of the Anglo-Belgian Boundary Commission. I wonder if you have space to publish these "literary gems" from "Darkest Africa"?

Needless to say, Israel's wife is now undergoing a course of the "Strong Medicine," while I fancy some of the same brew might do her worthy (?) spouse no harm.

Yours, etc.,
F. W. GILBERD,
Medical Officer,
N.R. Govt.

Anglo-Belgian Boundary Commission,
P.O. Abercorn,
N. Rhodesia.

"Meal Store.

"B. Burns, Esq.

"SIR,—It afford me a great pleasurable to have this opportunity of starting my anxiety and let you know what I wish.

"I am asking if you got any the Royal Dictionary for sending me. Then, if not, please kindly to find out where you can possible gain it and buy it for me.

"I shall be very anxious to receive this book, which shall secure me from high words in English letter in your mercy-full.

"I will bring money back in stead of it.

"And oblige, Sir,

"ISRAEL."

"A.B.B. Commissioners."

"Meal Store.

"Dr. Gilbert.

"SIR,—I fill with much oblation to write to you to let you know that I am sending my wife to have enjaction by you, Sir.

"Because allways my wife getting sick, if she has to be conceive, then some disease come and destroyed it when she pass one month.

"Of course, when this thing spoils then the whole body start to pain, and backbone.

"I hope you know the Strong Medicine which can cure my wife.

"With great aprightness,

"ISRAEL."

"A.B.B. Commissioners."

The Nurses' Dance

THE morning after, when the head aches and a drowsy numbness pains the sense, is scarcely the ideal moment to enlarge upon the delights of the night before, but in the case of Monday's Dance in the Revelstoke Library these remain sufficiently vivid to brighten the morning gloom with pleasurable recollection.

Perhaps the highest praise that can be given to the dance is to say that it was better than the last one—and that is saying quite a lot. In spite of the natural hazard in the middle of the floor, which tripped the light fantastic toe and removed more than one shoe, and in spite of the immensity of the assembled multitude, there was no marked impairment of dancing comfort, and even when the lights went out the number of collisions of serious nature was remarkably small.

The band of musicians, led by Keith Coles, played with an ecstatic frenzy delightful as much to the eye as the ear, the trumpet vieing with the string bass in the fervour of his rhythmic devotions. One criticism may perhaps be allowed: the band, encouraged doubtless by the vigour of the applause, tended to make each item too long, so that the promiscuous ones among us were unable to dance with all the partners (and they were many) upon whom we cast an appraising eye.

The refreshments were fully appreciated, and testified to the labour of the self-sacrificing people who prepared them beforehand with no prospect of being present to enjoy them.

Despite the strict limitation of the number of tickets sold, the Cosmo Bonsor Memorial Fund is said to have benefited to a surprising amount, and it is to be hoped that this will encourage the organisers to hold another similar dance in the near future. There is little enough social life in the Hospital at the present time, and there should be no reason why these informal dances should not become a regular part of the Hospital activities.

Sport

Rugby

Guy's v. Aberavon

THE visit of Guy's to Aberavon on Saturday, February 11th, proved a great attraction, and there were at least 5,000 spectators present to see the home side retain their unbeaten home record by defeating the Hospital by a placed goal, a dropped goal and 2 tries (15 points), to a placed goal and a try (8 points).

It was a splendid game from start to finish, and Guy's showed a marked improvement on the form shown in their Cup-Tie with Middlesex. Although closely marked, their backs had a much better

understanding, and Thomas, in spite of the fact that Bowles was still inclined to lob his passes, played an excellent game, both in attack and defence.

It was a pity that O'Shea, Morgan and Clarke were unable to turn out for Guy's. However, their deputies played so well that there was little to choose between the packs.

The opening exchanges were even until Phillips broke away on the wing and was hustled into touch near the corner flag. From this move Aberavon pressed, and from a mêlée in front of the posts T. O. James fielded a clearing kick by Clegg, and, after taking careful aim, dropped a goal to give the home side the lead after ten minutes' play.

Guy's retaliated immediately, and as the result of an opening created by Thomas and Giesen, Alexander ran right through the centre, to send in Wright for a dazzling try, which Hogbin failed to convert.

After this the game warmed up considerably; both sides attacked in turn, and the Hospital back division was a continual source of danger. However, a strong burst by the Aberavon forwards enabled the home team to go further ahead, and I. Thomas dashed over the line for a try in the corner.

This reverse put fresh life into the Hospital side, and, after several attacks, the backs combined in a beautiful movement which ended in Giesen scoring a try under the posts. With Hogbin adding the necessary goal points, Guy's crossed over at the interval leading by a point.

The second half opened at a cracking pace, which resulted in several minor casualties—all the result of first-class tackling on both sides.

Unfortunately for the home side, Vickery, one of their forwards, had to leave the field mid-way through the second half, suffering from slight concussion, but this did not prevent them from taking the lead again when Roberts created an opening for R. Lewis, who ran strongly to cross for a try behind the posts, which Jones converted from an easy position.

Near the end Phillips made sure of the match when he ran for nearly half the length of the field to score another try, which was not converted.

It was a very fine game, fought out in a splendid spirit by both teams—determination, coupled with combination, gave Aberavon the success which they deserved.

Team.—W. B. Clegg; A. G. Johnson, J. E. Giesen, P. C. Alexander, C. G. Wright; I. K. Thomas, V. H. Bowles; M. R. Kark, C. W. Outred, A. G. Heberlein, M. L. Walt, R. J. Drummond, R. A. P. Hogbin, C. S. Darke, T. A. Hale-Munro.

Guy's v. Old Millhillians

ON Saturday, February 18th, Guy's were successful at Honor Oak Park, where they defeated the Old Boys by a placed goal, a dropped goal, a penalty goal and 2 tries (18 points), to a placed goal and a try (8 points).

The Hospital were represented by their Cup-Tie team, with the exception that Lindsay took the place of Johnson on the left wing, whilst the visiting team lacked the services of Sobey and Spong.

Guy's took a long time before they got into their stride, and during the first half the Old Boys were slightly the superior side. After the interval the Hospital played excellent Rugby and were on the offensive continuously. With the forwards getting the ball repeatedly in the set scrums and the backs in dazzling form, the Old Boys had a hard task in preventing Guy's from piercing their defence on several other occasions.

Quite early in the game Carris, from a penalty near mid-field, found touch near the corner flag, and from the line-out the ball came across quickly to Morley, who scored a good try, which Carris converted.

For the next few minutes the exchanges were fairly even, but the backs were finding the light ball rather difficult, with the result that knocks-on spoilt several promising movements. However, Giesen cut through to the visitors' 25 and, following a five-yards' scrum, Bowles passed out to Thomas, but the Old Boys were offside, and Hogbin kicked a good penalty goal.

A further attack by the Hospital looked promising, but the movement ended when Morgan, in trying to drop a goal, kicked the ball dead.

Just before half-time the Old Boys pressed strongly and Guy's were compelled to touch down. Carris again found touch in the corner, but Morgan and Hogbin relieved with a fine dribble to mid-field.

Immediately on resuming in the second half a splendid movement was started by Giesen, who intercepted in his own half and ran through the defence to Carris before passing to Thomas; unfortunately, the latter's pass to Kark was forward and a good opportunity went astray.

A minute later the Hospital threes carried out a very smart bout of passing, and Giesen, finding a narrow gap in the defence, slipped through and, swerving past Carris, scored a very fine try near the posts, and Hogbin had no difficulty in adding the goal points. After Giesen had just missed a drop at goal, Alexander was brought down only a yard or so from the line.

After several scrummages the ball came across to Thomas, who steadied himself before dropping a good goal. Guy's soon increased their lead

when Giesen sent Alexander through the centre. The latter could have scored himself, but he made certain by passing to Wright, who flung himself over the line, but Hogbin hit the far upright in trying to convert.

Then Morley, the Old Boys' fly half, took advantage of a knock-on by Thomas and, gathering the ball in his stride, ran very strongly to score an unconverted try in the corner.

Guy's responded almost immediately when Alexander cut through beautifully and scored an excellent try, but Hogbin just failed with a difficult kick.

There was no further scoring, although Wright made a good effort in the last minute. It was a very enjoyable and interesting game, and, as at Aberavon, Guy's showed vastly improved form.

Team.—W. B. Clegg; M. J. Lindsay, J. E. Giesen, P. C. Alexander, C. G. Wright; I. K. Thomas, V. H. Bowles; M. R. Kark, J. P. O'Shea, M. L. Walt, I. G. Robin, R. J. Drummond, T. Morgan (Capt.), R. A. P. Hogbin, C. S. Darke.

Hospital Information, etc.

Pass List

L.D.S., R.C.S. (Eng.).
FIRST PROFESSIONAL EXAMINATION.
February, 1933.
PART I.
Dental Mechanics.

W. S. Jackson
W. J. R. Morgan
R. G. Hunt
J. W. Turner
J. J. Gaterell
R. O. Holland
J. F. Russell

PART II.
Dental Metallurgy.

W. S. Jackson
W. J. R. Morgan
R. A. Beck
L. C. B. Revell
C. E. Coltman
J. L. Deuchar
P. Griffin
E. C. Hammond
P. S. P. Jenkins
K. A. Keith
H. P. L. Rhodes
H. Richards
J. F. M. Sampson
V. Rattee
D. E. Ashdown
N. A. Blay
E. B. Briault
W. F. Cooper
R. S. Wells
C. H. Greaves
N. A. Hawkins
F. L. Ingram
H. H. M. Hillier
F. H. W. Peatfield
A. G. Richmond
N. A. Siggers

PART IIIa.
Anatomy and Physiology.

J. J. Gaterell
E. C. Hammond
R. C. Ballanff
E. A. Beach
D. P. Fox
R. E. Goodrich
G. W. Lawrence
J. L. McDougall
W. E. Nelson
C. H. Greaves
H. Cowen
D. K. Toulson
R. J. H. Corfe
H. F. W. Dornhorst
J. E. C. Peacock
J. C. Keay
W. R. G. Morris

PART IIIb.
Dental Anatomy and Physiology.

E. S. Venning
J. M. Alexander
K. C. Baker
H. B. Watson
C. V. F. Thomas
H. C. Davis
F. C. Dutton
D. D. G. Greensted
J. W. Hallam
W. B. Hubbard
W. A. Jones
W. C. Kendrick
B. Machado
E. J. Parks
K. G. Swiss
J. F. Russell
K. L. Scott
J. L. Thompson
H. C. A. Weighell
M. Bledin
V. H. Bowles
R. S. Cook
F. J. S. Copley
H. C. French
D. P. Walther
R. J. G. H. Williams
H. L. P. Coetzer
H. Kanter
W. J. Littleton
G. J. Parfitt
D. S. Raubenheimer
F. A. Rogers
E. E. H. Sampson

CAMBRIDGE UNIVERSITY.
SECOND EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.
December, 1932.
PART I.
Organic Chemistry.
G. E. Yardley.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.
PART I.
January, 1933.
L. R. B. Birt
R. J. L. O'Donoghue

OXFORD UNIVERSITY.
February, 1933.
BACHELOR OF MEDICINE.
C. H. Fagge.

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F. Giles, L.D.S., R.C.S. (Eng.), The Pines, Capel, near Folkestone.

A. Ingram, M.D., 10, North Hill, Highgate, N.6.

G. V. L. Williams, L.D.S., R.C.S. (Eng.), 30, Brighton Road, Sutton, Surrey.

Papers by Guy's Men

C. Worster-Drought and C. P. G. Wakeley. Cerebral meningioma, removal of tumour. *Proc. R.S.M.*, 1933, xxvi, 304.

C. F. Brockington and W. R. F. Collis. Tuberculosis in childhood: ætiology and prognosis as shown by stomach lavage method of obtaining tubercle bacilli. *Lancet* 1933 i 127.

E. C. Warner. Medical aspects of hæmaturia. *J. Clin. Research*, 1933, xix, 1.

G. P. Whitwell. Laboratory methods in skin diseases. *J. Clin. Research*, 1933, xix, 9.

R. H. J. Swan. Hæmaturia. *Clin. J.*, 1933, lxii, 47.

J. A. Ryle. Treatment of acute appendicitis. *Clin. J.*, 1933, lxii, 45.

J. D. Cambrook. Example of localised inostasis. *B. Dent. J.*, 1933, liv, 127.

H. Chapman. Note on extraction in orthodontic cases. *Dent. Rec.*, 1933, liii, 49.

F. B. Bull. Four cases of irregularity in maxillary incisor region. *Dent. Rec.*, 1933, liii, 16.

F. L. King. Case of impacted canines; Case of missing laterals. *Dent. Rec.*, 1933, liii, 23.

EDS. { E. S. / M. J. McA.

GUY'S HOSPITAL GAZETTE

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PASSIM

IN an age of commercialism and misguided ideals it is not surprising that the worship of the Golden Calf should become the central object in the mind's consideration. Nor is it surprising that those for whom this is the greatest ideal should leave behind them all the so-called antiquated standards if, by so doing, their path to the shrine will be the quicker and the easier. What matter about common principles of morality, decency and loyalty when money is the prime consideration? What matter the warning of St. Paul, "that no man over-reach or deceive his brother in business," when the fascination of money lies behind? In the everyday run of events we have become used to such "business-like" methods, we are prepared to withstand them and ready to resist the temptation to regard money as the overwhelming power and force. From the American example we know the results of such a conception, and realise only too well the power and evils of graft.

How amazing, then, to find that the practice of graft has spread into the ranks of the Medical Profession, and is threatening to disturb the relations of patient, general practitioner and consultant. Under the prettily-sounding name of dichotomy is concealed a policy of graft that would almost do credit to the example of American municipal politics. The word—a euphemism for fee-splitting—is a practice whereby the general practitioner, unbeknown to the patient, retains for himself, as commission, part of the fee due to the consultant. At times the prime mover in the system is the practitioner, at times the consultant. The whole matter was brought to the light in a recent letter to the *Lancet*, in which a young surgeon, signing himself "Unwilling Accomplice," admitted that much of his practice was conducted on such a basis. Apparently there are two varieties of this practice. In one case the practitioner lets the consultant know beforehand what proportion of the fee he expects to keep for himself, and in the other, and most glaring variety, he, after receiving a fee from the patient, ostensibly to pay the consultant, diverts a part of it into his own pocket and sends the remainder on to the consultant. "Unwilling Accomplice" loathes such habits—perhaps the more so in time of financial stress—but finds himself indulging in them to keep up his own practice. To remedy the evil he suggests the formation of a professional organisation of consultants, a sort of compulsory trade union, which would automatically prevent all its members from conniving at dichotomy.

We welcome Mr. Cook's strongly-worded letter in the last issue of the *Lancet* upbraiding "Unwilling Accomplice" for his lack of guts, and banishing to the outer darkness the whole tribe of dichotomists. There can be no doubt that this practice, were it to spread generally into the ranks of the profession, would be dangerous to the whole practice of medicine, striking at the root of medical relationship—the trust that resides between patient and doctor. The public expects that its physician, in all dealings with his patient, should be a man of good moral principle, including financial, and, above all, should be one in whom it can trust whole-heartedly. Dichotomy is essentially underhand, destroying of that trust and blatantly dangerous to the patient in that it tends to raise fees unduly and lends encouragement to unnecessary consultations and operations.

But let there be no humbug or false cant in discussing this matter. It is essential to be frank and outspoken. It will be agreed that the general practitioner is perfectly in the right in demanding a fee for assisting at an operation, and is often justified in insisting that he should be the assistant.

We would go further and say that when he is called in consultation with a specialist he again deserves a fee. This seems to us only fair and reasonable. The fee, admittedly, should be a proportionate one, and a fair payment for work done. Anything in excess of that becomes in the nature of a commission, and is in itself dichotomy. Everything, then, will depend on the honesty of the two parties, and, however much an organisation may help in setting standards, it must rely ultimately on the integrity of its members. No one wants to see Medicine lose the dignity of a profession by becoming completely commercialised. Those with highly developed commercial and business instincts should have chosen a different career, and to the majority of us there can be nothing more pitiable than the thought of practitioners or consultants, like commercial travellers, plying for commissions.

▭

We should like to offer our heartiest congratulations to Mr. Gibberd on his appointment to the Surgical Staff of Queen Charlotte's Hospital.

On the eve of going to press we have received several items of interest which we can merely communicate to our readers in a stop-press manner owing to the limited time and space at our disposal. After the retirement of Mr. Rowlands, it has been decided by the powers that be that the post of Fifth Assistant Surgeon shall be allowed to lapse—a prophecy foretold by the compilers of the Residents' Play programme !

In future, take-in weeks shall be reduced to periods of three and four days, an arrangement which will take place from May 15th.

Finally, our last item of interest concerns the welfare of the patients. In future, they will be allowed to smoke in the male wards at certain hours of the day, thereby reversing one of the oldest regulations in the Hospital.

▭

We should like to offer our heartiest congratulations to the Rugger team on their great effort in retaining the Inter-Hospitals' Cup this season.

▭

Charles Herbert Fagge—An Appreciation

" Time goes, you say ? Ah, No.
Alas ! Time stays ; we go."

FEW surgeons can advance to the Consulting Staff of their hospital in such opposition to the press of Time as Charles Herbert Fagge, Senior Surgeon. As the " young 'un," he was first known to Guy's in 1890, and now, at the end of 43 years, it is rather startling to realise how well that epithet still applies. In mien, in manner and in mind, he is yet the " young 'un," and it is encouraging to those of us who are surgically bent to find a surgeon of his calibre so sleek at sixty.

Fagge came to Guy's in the spring of 1890, and his early biology is interesting in that he was denied the comforting obscurity of the commoner in which to develop for a little time, but must emerge at once into the full light of hospital life. He was the sixth of a long line of ancestors who had acquitted themselves well at Guy's, and was the nephew of an uncle who, as a physician to the hospital, was famous for his writings and clinical teachings. Furthermore, he was the younger of two brothers at the Medical School. He had, therefore, to live up to a reputation—no easy task for a young man. He was stimulated, rather than sensitised, and some of his intimate friends of that period declare that his most striking characteristics were an independence of spirit and a determination to do well and succeed.

His quiet aim and object in life was to get on the Staff at Guy's, and towards that end he directed his career. There were to be no Micawber-like vacillations about him, and even in his student days this spared him the fevered sleeps that so often depress those of us who find ourselves qualified without a definite end in view.

He was well equipped for this ambition by a mental legacy from his uncle. It has been said of Hilton Fagge that he was a man of good memory and indefatigable industry. Certainly his nephew had an almost uncanny memory, a fact upon which all his house surgeons have commented again and again.

Fundamentally he was of studious frame, and lost no opportunity of feeding this memory with so many facts that anatomical and surgical detail in themselves failed to satisfy. He acquired that cormorantic appetite which is such a feature of his later years, and which always dismayed, and sometimes confused, his successive house surgeons. Such a memory thrived on industry, and it is not surprising he produced an early record harassingly

replete in A.5's, Gold Medals and Hospital Distinctions. A glance at his Index Sheet will repay the ambitious aspirant. There are A.5's from such men as Sir Henry Howse, Sir William Hale White, Sir James Goodhart, Sir Charters Symonds, Clements Lucas and the like. Only one below A.5—an A.3 from the censorious Jacobson. Here are a few of his honours :—

1st M.B.	Gold Medal in Anatomy. Honours in Materia Medica. Scholarship.
2nd M.B.	Hospital Prize. Certificate for second-year students
Final M.B.	Gold Medal in Medicine. Gold Medal in Surgery Honours in Forensic Medicine.

After this, he took his Fellowship and Mastership in Surgery, and in turn became Surgical Registrar, Anatomy Demonstrator and Assistant Surgeon to the Throat Department. During this sequence he built up a great reputation as a teacher, and not a few old Guy's men have asserted how much they owe him for helping them over anatomical, surgical and even pathological styles.

He commenced his operating at a time when Surgery was shaking itself loose from the fetters of the carbolic spray, the carving knife, and the coat cuff that so conveniently wiped away the blood from the field of operation. Small wonder that he ever after insisted that his dressers should "mop" and not "wipe." Such an atmosphere nurtured noise, and tempers were lost, sometimes as swiftly as the limbs amputated.

Fagge, however, was appreciated, in that he had a quiet manner and technical skill, and some of the Clinicals of those days say that it was a great relief to see him operate. There was no proud pre-operative display of long, dirty finger-nails; no stertorous call for three basins, one of Lysol, one of hyd. perchlor., and one of biniodide; and no loud declaration (in allusion to the subungual smears) that in the first basin "they move about," in the second, "they scream," and in the third, "if there are any left, that fixes 'em."

He, on the contrary, had faith in the new aseptic principle, and tutored, like many others, by Lane, developed the vigorous operative technique which has always been a notable feature of his work. Many generations of Guy's men have reason to thank him for so forcibly instilling into them such measures that might have seemed at the time more stilted than sterile, but since then have realised how immensely valuable his training has been.

Another great feature of his work in the theatre was an imperturbability of spirit, such as is essentially possessed by the greatest of surgeons, and no occasion or abnormality could disturb his ordered course. Even at an early stage it was felt that if a bomb were to invade his theatre he would still carry on with calm indifference, or perhaps pause to murmur some caustic comment.

Such was his surgical cradle. But this was not all. From the first he showed too great a fondness for life to allow his surgery to exclude all else. He was a "young 'un," and lived up to it. He joined a lively students' set, and not a few hospital and Borough rags found him a prominent participator. Large bonfires to the two Guy's in the Front Quadrangle were fed by him and his set, and it was whispered that on one occasion their fuel even embraced the benches and clock of the famour "Grapes." (Confirmation of this has been sought, but unobtained, for the memory of the "Grapes" bar attendant of that time is somewhat confused after 40 years of alcoholic service.) That same gang built, at midnight, two or three layers of brick on the then 6-foot high building near the Nurses' Home, and also the next morning the numerous high scaffold poles presented the unusual appearance of being topped with workman's pails. The intimate and mischievous friend with whom he digged had to show Sir Cooper Perry how to take these buckets down! The bricks, unfortunately, shared the same fate, for their setting was not of the same accuracy that later marked his alignment of fractures.

In more serious sports, he played rugger for the "A" XV at a time when the First was extraordinarily strong and possessing such redoubtable men as Bell and Hancock, and, in addition, he devoted two whole summers to cricket. This zest for games did not desert him, for when he had ceased to play he became a very familiar figure in support of the hospital sides, and later became a strong President, both of cricket and of rugger.

Billiards, too, claimed his attention. Practice, soothed occasionally by a pint of Cooper, made him a skilled cueman, who nursed his cushions well. But it was the rod and line that were his special passion, and in the season he would lose himself entirely in fishing. While working for his examinations, he would love to get away for a weekend's sport, and on one such occasion, before the M.S., he and his room companion went down to a Welsh river, licensed only for trout. No bite rewarded their efforts until, at a late hour, the "young 'un" hooked and landed a salmon. The gentle chidings of conscience were easily overcome, and, slipping the salmon down his wader, he turned for home. But scarcely had he moved from the

spot when he walked straight into a keeper, who scanned him sourly and asked to see his licence. The "young 'un" rose to the occasion, and began vigorously to engage in platitudes in the hope of deflecting attention from his trouser, oblivious of the fact—all too patent to his horrified friend—that the salmon's tail was waving majestically above the top of the wader. Happily, the "young 'un's" efforts were successful, and the incident passed off without any untoward result. It would have been tragic if he had spent the next few days in the "Lock-Up" instead of in the Examination Hall!

Nor was his angling confined to fish. In the Park the gentle streams of nurses were lightly scanned by the unbewhiskered face—beards being then the common cult—and soon his attention was drawn to the Accident Ward (the present Dorcas), whither he was often seen to repair with feigned scholastic stoop. Eventually he emerged with the Sister as his spouse, and so were sown the seeds of another generation at Guy's. It is good to reflect that his love of fractures might have been born in this happy way!

As he grew in surgical stature his reputation as a teacher and clinician grew with him, and his Ward Rounds always attracted a crowd. He was never pedantic, and if he was ever dogmatic it was merely to emphasise some point he was making. His questions were usually put in the best examination style, and an insistance on correct and precise replies materially assisted the many senior students who consistently followed him in passing their examinations. He became an examiner at the College, and for the years 1920-30 sat on the Court of the Fellowship of the Royal College of Surgeons, being for the last two years Chairman of the Court. Here his popularity was considerable, for he had the reputation of extreme fairness.

As a clinician, no better example of his wide experience can be found than in his recent publication, "The Acute Abdomen," dedicated to his house surgeons. It is a superb little book, full of wisdom, and should be read by every Guy's man. It is difficult to see how he has been able to condense so much into so small a space. There is no wholesale packing anywhere, and it thus differs very advantageously from other subacute writings on abdominal disease.

Outside the hospital his voice had far greater influence than we at home suspected, for he has never been a talker about his own affairs. He was a quondam President of the Association of Surgeons, President of the Surgical Section of the Royal Society of Medicine, Vice-President (1929-1931) of the Royal College of Surgeons, and lastly, he was selected to take the mace of the Royal College of Surgeons to the Royal Australasian College of Surgeons, becoming thereby the first Englishman to be given the honour of an F.R.A.C.S. In spite of these numerous activities and other hospital appointments, he was always ready to help anyone with kindly advice or letter. And advice from him was well worth having, for it was always a genuine statement of his considered opinion, and was never thrown out haphazardly, or given merely as a palliative to the vanity of the seeker. He would write letters of help or advice even on a holiday, and on one occasion, while fishing in the Shannon, he sent several personal testimonials to secure a post for one of his housemen at another hospital. It is, perhaps, these two last characteristics that have endeared him to so many generations of Guy's men.

Chubby's career as a consultant is yet to come. It is a curious fact that he commenced and terminated his career on the Honorary Staff of the hospital with a house surgeon of the name of Grace. Surely this is a good omen. We wish him well, and hope to see him often in his new capacity. We feel that the shade of Thomas Guy, as he keeps his vigil in the Courtyard, must murmur as he passes :—

"My life itself, and the best part of it,
Thanks you for this great care."

Guy's Hospital Gazette

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Happiness and Success

The Alfred Fripp Lecture by Lord Baden-Powell of Gilwell, G.C.M.G., G.C.V.O., K.C.B., etc.

The Chairman (Dr. M. J. Rendall, C.M.G., M.A., LL.D.) said,—Mr. Provost, Lord Baden-Powell, Ladies and Gentlemen—perhaps I may be allowed to add one other name, Lady Fripp. Ladies and Gentlemen, we are met for a great and delightful occasion for the delivery of the second Alfred Fripp Memorial Lecture by Lord Baden-Powell. Our theme, as you know, is " Happiness and Success "—both words are highly controversial. I have no doubt that Lord Baden-Powell will throw some light upon them, but there are two aspects of the question about which there can be no controversy.

Firstly, that the great surgeon who founded this lecture was himself a shining example of both success and happiness. Success is written broadly along the whole of a great career, and, as for happiness, he had a fund of sunshine in him which shone wherever he went and communicated itself to all whom he met, and especially to those children whom he loved and for whom he did so much to found a hospital. He climbed to the top of his profession and was beloved by all.

My second point is this—there are few men, if any, who have added more to the welfare and the happiness of mankind than Lord Baden-Powell. His great movement, which started, I suppose, in Mafeking when he made us all happy in a season of gloom, has spread throughout the world, and cut deep into the heart and into the very being of all young folk; and I think we all know the significance of that magician's work, the Great Jamboree. It needs no words of mine, it was past belief. But I will venture one personal touch to show you how deep the movement has cut.

I had the honour on Armistice Day to face in the East of London, which is sometimes thought a gloomy place, three thousand Boy Scouts who were transformed into happy and dignified citizens by this incredible movement. I cannot think of anything more touching that would make a stronger appeal to the imagination than that group in that surrounding on that day.

Well, the founder of such a mighty scheme, and let me say the author of the best book for boys I know, called " Scouting for Boys," has surely something to tell us this afternoon about " Happiness and Success."

One word more only—that when Lord Baden-Powell (B.-P. as we called him) was fighting at Mafeking, Sir Alfred Fripp was also fighting in the cause of his country at his hospital at Bloemfontein. After the war was over they met at Mafeking, and that friendship of nearly thirty years' duration has reached its last stage and its great consummation in our meeting here this afternoon.

I have the great honour and the great pleasure to call upon Lord Baden-Powell to address this meeting.

MR. PROVOST, LADIES and GENTLEMEN,—A short time ago I was invited to go and speak on the subject to which you have just alluded, Sir, the Boy Scouts, at Scarborough, and to give the leaders of education in that county some idea of the ideals and methods which we are employing in training these Boy Scouts. I had prepared what I thought was rather a fine address for the occasion. We were taken to the theatre of the town and put on the stage in a group like this with all the eminent men of education round me, but the curtain was down and I could not see my audience. I had thought that all the heads of education were coming to hear me, but when the curtain went up I found nothing but girls' schools there, and had to scrap my oration and go on with funny stories. Well, to tell you the truth I feel myself in a somewhat similar plight to-day. I had come here with the idea of meeting a few rowdy undergraduates, both men and women, and of adapting myself to them and trying to teach them how to be happy and successful. Instead of that, look at you. (Laughter.) Well, it can't be helped. I find a very large and representative audience here which I had hardly expected, but I do hope that you will be merciful and sympathetic to me and let me yarn along to those beginning their careers, for the rest of you, I expect, are happy and successful.

I feel so utterly inadequate to give this address coming after a great man like Mr. Baldwin, and to speak on such an important occasion is very unnerving. I do want your sympathy. It is a great joy to me just to be able to add my little tribute, small as it may be, to the memory of Sir Alfred Fripp, and to tell you that his example has often been a help to me, and in giving out that example to others I believe we help many more on the right way towards happiness and success.

The object of these lectures is to give suggestions for bringing happiness and success into the lives of those who are starting their careers. To such I will offer this recommendation—to remember

that you are an individual. That is the first thing to remember. Brought up as we are nowadays in a crowd, individuality is apt to be lost, but each one of you who is going to make his career must remember he is an individual, though one of a crowd, and has an individuality of his own and he must make his own way and prepare his own line of life; no one else can do it for him. The reason is that no two men are the same in personality, character or temperament, as no two of you in this room are alike in features. It is a strange miracle you hardly ever think of that we all have a skull, but no two of us have the same features, and there are millions about the world all on the same basis. Just in the same way you will find that no two people are alike in character, personality and temperament, but each man must choose his own line of work, and to do that he must study himself. Thousands of years before Christ men studied themselves; the saying "Know thyself" was respected by the ancient Romans, so much so that they had it written over the porticos of their temples. Once you know yourself properly, it is a big step towards your advances to success.

It is not necessary for you to follow tradition, not to be led by the herd around you. Take the advice of the old negro in Valentine's ballad of "Ole Marster":—

"There's some what resembles goslin's in the way
they march behin',
The ones that go before them though they don't
know where they's gwine;
Jest steppin' in de goose-tracks of the father goes
the son,
And he never does do nothin' that his daddy
didn't done."

There is too much sometimes of that following in the footsteps of others; look out for yourself where those footsteps lead, for it may be in the wrong direction, but follow them if they are good ones.

Sir Alfred Fripp in instituting these lectures has started an original idea which will be of incalculable value to the future manhood and womanhood of the nation. He has brought to youth advice from various sources for making the best use of their lives, a thing which they are too generally left to find out for themselves, often with unnecessary painful experiences.

I have had about a thousand letters from boys and young men as a result of a book about scouting, asking me for advice. It is often said that the young generation think they know much more than the old and do not mean to invite criticism, but it is quite the contrary. I find an enormous number appeal to one of their own initiative and are anxious to find out what the older ones have to say, if the latter are willing to adapt themselves to modern developments. And therefore I am encouraged by their attitude to offer just a few suggestions from my own experience in what I call "The University of Life," in the hope that they may be of service to some, or at any rate be accepted as endorsing the ideas of Sir Alfred Fripp.

In the first place, when you study yourself, see your objective. I believe it to be psychologically sound that if you make up your mind to achieve an object you are—provided you stick to it—sure to get it or nearly get it in the end. Be like Josh Billings, who said, "Be like a postage stamp—stick to it till you get there." To effect this you must, as the first step, select and visualise your aim, and then concentrate your thought and effort on the measures for attaining it; if you let your advance be diverted from your aim by side issues and trivialities that do not contribute towards your progress there is the chance you may fail to reach your goal. Visualise your objective and concentrate your effort to attain it.

Then, what is your objective? I suppose most normally minded young people would say, "I want to aim for success in life." So far as my experience goes success is equally attainable by every man provided that he has a true conception of what is meant by "success." What is success—riches, power, fame, position? These are naturally things which occur to a young man's mind as what he would like to aim for, but, though they are generally preached as a means to success, so often they mean not success but over-reaching the other fellows and getting the better of them for our own good. My feeling is that our Creator put us into this world, full of beauties, wonders and friendships, to enjoy the life he has given us—that is, to be happy. Happiness, therefore, to me is success; success is the gain of happiness, though it is not always regarded that way.

Ambition is preached to young men as a worthy quality; so it is to a certain extent, but it has the danger of becoming too personal and, therefore, selfish, leading to envy, jealousy and disappointments, especially in cases where you have not sufficiently studied yourself and consequently, as a round peg you have tried to get into a square hole and found yourself not a success.

Then there is *power*, which is also preached as a great feature of success. There, again, through not having studied themselves many men aim for power, not realising that the special gifts and characteristics which are essential to success in that realm do not happen to be theirs.

Then there are riches; everybody thinks them a good thing to aim for. There is a Cingalese proverb which says, "He who is happy is rich,

but it does not follow that he who is rich is happy." That is tremendously true. A rich man has his limitations—he may have three or four houses with dozens of rooms in each, but he has only one body and cannot enjoy them all at once, and so has to worry himself going from room to room and house to house looking for comfort and not finding any. A poor man is better off if he has one house, one real *home*.

Take the case of the late Sir Ernest Cassel, who was pointed out as a success. He confessed openly to failure in the end; he had gained riches, power and position, but admitted at the end of his life that the great thing, happiness, was still missing. He was, as he put it, "a lonely man." "Most people," he said, "put too much belief in the theory that wealth brings happiness; perhaps I, as one of the well-to-do, may say that it is not so; the things that are most worth having are the things that money cannot buy." This, with many other like testimonies, ought to cool the ardour of those who look on wealth as success.

In spite of this there is a craze in the nation from top to bottom to get rich and to get rich quickly, if possible, through a lucky chance in the sweepstakes or tote club or the Stock Exchange. Why work when by a lucky win you may make thousands? is the notion. This habit of feverishly gambling is growing, to the detriment of hard work.

Then there is fame; many people think that to get fame is success. Just now notoriety is being hunted, in the mistaken idea that it means fame. We see the feverish endeavour going on among men and women to beat records, and so to gain fame or notoriety. Before attaining it they seem to think that this means success. When they have won it they find that it does not bring happiness, but only leads to further restless, unsatisfied hunting for more.

Popularity is held up as a worthy ambition, but popularity is not going to be got by hunting for it; it will come automatically if you are working the right way. If you put in love of others in place of self you will be loved.

Health, of course, is always pointed out as an essential for happiness, but I believe it to be arguable. I know many an invalid who is really happy in spite of his disabilities. I saw it only the other day in one of our Scout troops of cripple boys; there I saw really happy ones, just like our Chairman saw those happy East-Enders. These boys were happy in their hospital; true it was a comfortable hospital, but happiness came from doing something for other people—they were making toys for children poorer than themselves, which led them to think that they were not so badly off after all, as there were others worse off than themselves. Happiness will last. It is not temporary, like pleasure; the latter has become so much more easily accessible in latter years, and there is a danger of its enticing people from hard work to constant pleasure seeking. It is "constant" because pleasure is only transitory and creates a recurring desire for more. Pleasure is not happiness.

But enjoyment of life is another thing, and is open to all men if they only know how to get it. We are apt to take this life too seriously without realising that it is a jolly adventure which is, after all, a game. When Shackleton went to the South Pole he said, "Life is the greatest of all games, but there is the danger of treating it as a trivial game; the chief aim is to win through honourably and splendidly." There is so much to enjoy in the world if we only keep our eyes open. Robert Louis Stevenson said:—

"The world is so full of a number of things,
I am sure we should all be happy as kings."

There is something in that if we look around and see what there is to enjoy.

I had a dream some time ago, or rather it was more of a vision as it was so realistic, and this was it. I dreamed that I had got as far as the gate of Heaven, when I was stopped by St. Peter. We sat down and had a chat about how I had enjoyed life on this earth, and St. Peter said, "How did you like Japan?" I replied that I had never been there, at which St. Peter said: "My dear fellow, what were you doing with your opportunities? You were put on that earth full of beauties and wonders for your enjoyment; you seem to have wasted your time sitting still and neglecting them. Go back while there is time and have another try." You can imagine that as soon as I awakened I took a ticket for Japan, and have been wandering about ever since; I hope to see more of it still before I have finished.

It was only then I got to realise what a wonderful earth it is, and how much enjoyment there is in mixing with one's fellow men of all degrees and kinds with one's eyes open to the beauties and wonders in which Nature abounds. Of course, going about like that seeking enjoyment makes one perhaps rather a Jack-of-all-trades, and it is often looked down on as a wrong thing—but I think that is an arguable point, too. To have many and varied experiences, I think, adds very materially to the enjoyment of life on this earth.

Sir Alfred Fripp enjoyed life to the full, and largely because of his intercourse with his fellow men of all kinds—artists, actors, kings and commoners—they were all friends with him and he with them. In addition to the attractions to

him of travel, he had hobbies, pursuits and tastes of varied kinds; you might have called him a Jack-of-all-trades, but he was master of one, a great master of surgery. I do not know that it is necessary to be master of one; I know somebody who has enjoyed being Jack-of-all-trades and master of none, and that is myself.

Apart from enjoyment of life, contentment is another thing which contributes to happiness—thankfulness for what you have got and contentment with what you have got is a big step to success, but it is a point very seldom thought of by those who are ambitious. They want to get something better and better, higher and higher, when all the time the blue bird of happiness is at home with them if they would only have the ambition of doing what is right for others. Many men become by habit contented to live in a groove, whether it is the club armchair or playing golf or such-like, but that is a passive contentment and does no good to others, and men like that grow into vegetables, with their regular routine of seasonable occupation throughout their little lives. They have not gained success thereby. Men become vegetables unless their contentment has also an active side to it.

There was a will in the paper the other day of the late Captain Richard King, in which he spoke of a happy, successful life though he was poor, and he said: "Finally I should like to place on record that I have been one of God's luckiest creatures, and I can only wish I could have been more worthy of the affection lavished on me by my mother, father, brothers, wife, relations and others. I have had a wonderfully happy time, and I thank God for the boon of life." He only left £128 behind him, but he was rich in being happy.

Sir Thomas Lipton was in another way a success in life, not because of wealth, but because he gained happiness and contentment in very humbler conditions. When a boy he began in a small job in a grocery shop, and he was devoted to his mother. When he placed in her lap his first week's earnings, she jokingly said to him, "You will be giving me a horse and carriage next." This fired his imagination, and he set to work to earn enough money so as to be able to give his mother a carriage and pair. He told me that he had had many proud moments in his life, but the proudest was when he could give his mother that carriage and pair. Though he won great races, fame and riches, these did not appeal to him half so much as that landau he gave to his mother. He always carried a portrait of his old mother about with him. He was a success and a happy man.

My old head master, Dr. Haig-Brown, wrote a verse giving his recipe for a long life and a happy one:—

"A diet moderate and spare,
Freedom from base financial care,
Abundant work and little leisure,
A love of beauty more than pleasure,
An even and contented mind
In charity with all mankind,
Some thoughts too sacred for display
In the broad light of common day,
A peaceful home, a loving wife,
Children who are the crown of life—
This lengthens out the years of man
Beyond the psalmist's narrow span."

Well, true contentment comes to those who can look back on past doings with a clear conscience, and who love their work. Be content with what you have got, not with what you would like to have; this is, as I have said, a great step to happiness.

Hobbies are a good thing—work and occupation are further steps towards happiness—and Sir Alfred Fripp has related how he pitied one of his patients who, though he owned a great fortune, was miserable and depressed simply because he had no hobbies and interest for himself which he could carry out during the long days of illness. There are multitudes of such unhappy people in the world to-day.

I was once asked if I could give in a short paragraph the best steps towards contentment in life; I said I could state it in three words: "A Happy Marriage." By "happy" I mean not merely a joyous honeymoon and then a sustained effort of give and take, but a honeymoon lasting through life; such a thing is possible and is open to every man of sense, that is to a man whose line of head is stronger than his line of heart, and who does not get carried away by the first pretty girl he meets.

Difficulties and disappointments are bound to arise in ordinary life, but if you smile at them and treat them as inevitable they will rapidly melt away. I have suggested the following to many: "A smile and a stick will carry you through any difficulty in the world." I have tried it many times, and 99 times out of a hundred it is the smile which does the trick. It is a physical or psychological fact that if when you are in a state of anger or pain or anxiety you curl up the corners of your mouth and force a smile, it changes your outlook right away; it is not difficult that way, and I assure you it is right. I have known it pay so often from reports I have received from many Boy Scouts in pain, who say, "I put on a smile and found I was all right after all." This is a

valuable step towards happiness—laugh at a difficulty and it is gone. The law of the Boy Scout teaches him to smile and whistle when in difficulty, and this can be practised with success far and wide.

I remember in that raid by the Germans on the coast from Scarborough to Whitby, we had a lot of Boy Scouts coast-watching. One had his leg taken off, but he smiled heartily all the time, though it was hurting. When I was talking to him afterwards, still smiling he said: "Before I was shot I could run twice as fast as the boys; now I am handicapped I am on a level with them." That smile he put on pleased me and many others round him. This is only one out of thousands of cases.

Then there is that story about the great man, President Hindenberg. When he was being interviewed one day the following conversation took place: The interviewer said, "Is it true, Sir, that you whistle when in difficulty?" and the reply was, "Yes." "But," said the interviewer, "I have never heard you whistle." Hindenberg's answer was, "No."

Well then, apart from a smile, a sense of humour is indispensable if you are to make your way successfully in life. It is no use going through life with a hanging expression on your face. Of course, there are lots of young men who have set themselves up as cynics with a sort of superior contentment, but no cynic ever rose to happiness —he cannot. Cynicism is just the negation of the Christian teaching of "Love thy neighbour"; you cannot be cynical to a person if you love him. Cynics have no sense of humour; they put themselves on a pedestal and cannot see themselves as others see them, that is, simply as silly. Contentment, after all, is only a step towards happiness, because happiness cannot be complete without active love and service for others, otherwise it would only be just a selfish state of mind.

For my part I have habitually given myself three more years to go, and that makes me hurry up and get things done and get all the enjoyment I can out of life because in three years it will be too late. That is a very good incentive, because some day it will come true. In the meantime it makes you burst along and get all you can out of life.

Sir Henry Newbolt defined a successful man as "one who is happy through happy giving"; he is happy giving out happiness. It is one of the great secrets of happiness and success that the one who gives out happiness is a successful man.

Sir Alfred Fripp gave in three words the attributes for success in life, that is: "To live happily, cleanly and usefully."

To live happily is to be cheerful, optimistic and friendly, and to be thankfully content in what God has been pleased to give you.

To live cleanly is to be able to look back with no regrets for injuries done or underhand dealings with anyone, man or woman.

To live usefully is to render whatever service in your power to others and to the community.

Well, boiled down, this is what Christ enunciated as the true Christian living: To love God, and secondly, to "love thy neighbour."

Sir Alfred Fripp did not merely preach precept he was a great example of that Christian living. He lived happily; he was devoted to his own family and was intensely human; he enjoyed society of all degrees and mixed with his fellow men from kings to costers; he loved country life and was appreciative of all the beauties of Nature; yet he was a man of the world as well as a man of the home. Content and carefree, he lived happily giving out love and being loved in return.

He lived cleanly; he was strictly honourable and chivalrous, considerate in all his doings, and never had any regrets for any wrong-doing.

He lived usefully, for his exceptional skill as a surgeon was at the service of all, rich and poor alike. He was always ready to help good causes, especially those in which the sick and poor children were concerned.

That very original organisation, the Froth Blowers, gained much success on behalf of poor children through his promotion of it. He was always a keen, hard worker, unsparing of himself both in his profession and in helping the worthy causes. He was one of the best type of successful men, and was one of the richest men of his time because he was happy—no wants and no regrets—and that means a successful man.

He recognised particularly the need for education in the youth of to-day in the country in matters outside the scope of the school curriculum, but none the less important for their success in life, and so, oblivious of the example he himself was giving, he quoted a code of 14 points as being helpful:—

"1. Be yourself, hopefully and happily.
2. Be kind and considerate to others.
3. Keep yourself simple and young.
4. Don't cross bridges till you come to them.
5. Cultivate the art of suffering fools gladly."

I must add here that I was once taught my lesson "to suffer fools gladly" when I was connected with the Froth Blowers, whose link I am now wearing, and got into considerable trouble. Sir Alfred Fripp was giving a big sum to the Boy Scouts, to be employed for giving poor children the chance of going into camp. One gentleman

strongly objected to my accepting this money, because he said it was dirty money and had come from public houses. I said that I could not help that, and was glad to take any money as long as I got it. Sir Alfred Fripp told me to smile at those sort of people and accept the money, and so I learnt to "suffer fools gladly."

"6. Choose your friends wisely and keep up those friendships when made.
7. Don't let anger get the better of you; try to see the other fellow's point of view.
8. Cultivate toleration.
9. Maintain your individuality and independence.
10. Cultivate your sense of humour.
11. Cultivate your sense of proportion, and also the art of recognising your opportunity and seizing it.
12. Keep money consideration in its proper place; money is not everything.
13. Be temperate in thought, word and deed.
14. Don't look back on failure in gloomy retrospection; ignore difficulties, and cultivate switching your mind to better prospects."

These are all valuable hints and quite easily put into practice.

Sir Alfred Fripp left it to others to continue to pass on his tips, with any further hints for young men and women who are anxious to make good their lives. The text of his creed, of which he himself gave so shining an example, was to "sink self in the willing service of others."

It has struck me that there might be a wider application of that principle nowadays, with international possibilities, outside this country. Our world is upset by unrest and mistrusts, the result of super-nationalist feeling, self-determination and self-interest, serious jealousies between countries and a danger of war. The world fails to achieve success with peace and happiness, because it lacks the spirit of mutual goodwill and helpfulness. A complete change of spirit is needed in the different peoples if the League of Nations is going to be a real success, as it must have the spirit of the peoples of all countries behind it, and the spirit of the peoples can only be got by the change of spirit in the individuals who form those peoples, and if the individuals are working on the right lines we are on a good way to get the people to do it too.

There is a sect of devil-worshippers to-day who hold that the devil rules for six thousand years and Christ for another six thousand—at present we are under the devil's rule, the devil being self, and it really looks like it, too. It is at the bottom of our troubles to-day—envy, hatred, class war, political party strife—and making us jealous of each other. If the individuals of the different nations were true to the teaching of their respective religions, founded on duty to God and love for their neighbour, there would arrive the right spirit of co-operation in place of envy, hatred and mistrust. The result of such change of spirit would be individual happiness and collective peace for all.

I am afraid I have been detaining you much too long, but there is so much to be said on this subject of happiness and success; there is too much to be crowded into one short address; I had to write a book about it myself, and then I did not get it all in.

In that book I have had a most marvellous return in the thousands of letters I have received asking for still further information on the subjects with which I dealt. In that book I dealt with the following subjects:—

(1) Horses—by which I mean gambling,
(2) Wine,
(3) Women,
(4) Humbugs,

because these are the four things every man knocks up against in this world, and he may be ruined unless he realises he can circumnavigate each one of them.

To sum up, I would repeat that, granted that happiness is the best form of success in life, it is attainable by each one of us, firstly, if we are content to enjoy what we have got in this world without crying for the moon, and secondly, to sink self in the active rendering of service to others.

Let us, therefore, keep before us the striking example which Sir Alfred Fripp gave us of success in life, by living "happily, cleanly and usefully."

If and when the individuals forming the different nations come to change their spirit on to such lines, these nations will act with friendliness and co-operation instead of rivalry amongst one another. In our land by such a change of spirit in ourselves as individuals we cannot fail to gain happiness, because we shall be doing the highest form of service, we shall be helping, each in his own sphere, to bring about God's Kingdom on earth, to bring about the long looked-for reign of peace and happiness among men.

The Chairman then called upon Mr. Eason, M.D., M.S., Superintendent of Guy's Hospital, to propose the vote of thanks.

Ladies and Gentlemen,—I will not keep you more than a moment, but I feel that each and everyone of you will want me on your behalf to thank Lord Baden-Powell for his lecture, and I

must thank him in my own way and for my own reasons.

A third of a century ago, one afternoon I did what he would have blamed—I downed my tools at Guy's Hospital and left the Surgery where I was on duty, to run across London Bridge to read the bulletin outside the Mansion House that Mafeking had been relieved.

From that day to this it has always been a matter of wonder to me as to who this man was who has bewitched the younger generation of the world for their benefit by bringing the insight of purpose and duty to their fellow men into their minds. This afternoon for the first time I have met him and heard him, and now I understand. I think we all feel this afternoon after Lord Baden-Powell's address that we have been listening to something which is going to give us a great deal to think about.

As an old friend of Sir Alfred Fripp I know that nothing would have made him happier than to know that Lord Baden-Powell was speaking to us to-day on the subject which he has left for these lectures.

May I ask you once more to show your great appreciation, and also to include in it Dr. Rendall, a former famous Head Master of Winchester, a school the proud traditions of which is much on the lines of the gospel of Lord Baden-Powell.

"Pro Bono Publico"

SINCE an eminent doctor has set an example
By publicly taking a medical sample,
The right or the wrong of the Law's accusation
Is easily settled by skilled demonstration.

For if Thompson is faced by the wrath of a jury
And almost engulfed in rhetorical fury,
The procedure is simple and pretty to see—
Just a moment, my lord, while I pass a bougie.

And, again, if Trethowan is dragged from his home
To answer a charge *re* an osteotome,
His defence is assured, he can suffer no check—
The tourniquet, gentlemen, works best round the neck.

Or if Eddie Poulton were sued by a cleaner
And put in the box for alleged misdemeanour,
His conscience is clear, there is nought to repent—
For years he has lived in an oxygen tent.

And, lastly, if Kelsey should happen to venture
To apply for permission to patent a denture,
The suit would be his without condition or clause
If the judge would allow him to wire his jaws.

And so I could go on for verse after verse,
Getting from bad to worser and worse;
But here is a toast, re-echoed by all—
Three cheers for the man who took Nembutal:
For now we can drink it in draughts big or liddle,
And still go on feeling as fit as a fiddle.

W. S. N.

Post-Operative Treatment

A Clinical Lecture delivered at Guy's Hospital on Thursday, February 9th, 1933, by Charles H. Fagge, Esq., M.S., F.R.C.S.

GENTLEMEN,—Post-operative complications are often attributable to pre-operative medication, or its omission, so they are usually preventable. Thus severe pre-operative purging leads to dehydration; dehydration is aggravated by the necessary starvation which follows any operation, and so is liable to cause acidosis, with its sequelæ after operation. Now these results may, as a rule, be prevented by giving fluids and barley sugar freely up to the time of the operation, and by avoidance of purgation. We are in the habit, in this hospital, of giving patients castor oil the night before their operation; owing to the exigencies of space and of hospital accommodation it is often impossible to get patients into the hospital in order to do what is a better thing, to give them their castor oil 36 hours before the operation, and then to give them a day and night's rest before the time comes for them to be operated upon.

It is not a bad thing from time to time to reconsider and review the routine habits which we have as regards treatment. Castor oil, theoretically, is a very bad thing to give anybody before an operation, because it leads to considerable swelling of the mucous membrane of the intestine, being converted in the duodenum into ricinoleic acid, which is an irritant, causing the mucosa to redden, and swell. Vigorous contractions of the bowel are subsequently followed by inertia of

the intestines. Another theoretical disadvantage of castor oil is that, after having produced considerable purgation from stimulation of the colon, it acts as an astringent. You probably know that castor oil was first introduced into medical practice for the treatment of cholera. Ask yourself, therefore: Is intestinal evacuation a desirable pre-operative treatment? If so, can castor oil be replaced by an enema? We should contemplate the recovery of patients who are operated upon as emergencies and cannot be purged beforehand. So far as I know, the recovery in these cases is just as satisfactory and is not followed by any worse or more serious complications than in cases which have been purged. I have in my mind, too, a period during the war, when the weather was extraordinarily cold and a large number of wounded men were being brought into the casualty clearing stations, who literally had not had their bowels opened for weeks; owing to the intense cold the use of the outdoor latrine was a positive nightmare. Yet their intestinal war wounds did as well as those in whom the conditions were apparently better.

Nevertheless, in spite of what I have said in criticism of pre-operative purgation—and I gather that this practice is more severely criticised by American surgeons and teachers—I cannot help thinking that there is something in the practice of pre-operative purgation, otherwise it would not be a practice which has stood the test of time, as I know it has in, I believe, all the English hospitals. It would naturally occur to you that if one needs the rectum for help in giving fluids after an operation, an empty rectum is of more value than one which is already filled with fæces.

Pre-operative treatment, again, in the use of atropine may be of value in counteracting the effects of ether in the upper respiratory tract, and it is a pharmacological antidote to morphia. In my earlier days it was a habit, and it is still, in some practices, a habit, to give morphia and atropine pre-operatively.

Next a word with regard to the psychological effects of an operation. Much of the fear of an operation, the fear of committing one's ego to the charge of another person, which is very real, the fear of losing oneself, as patients say, has been overcome in recent times in several ways—the rectal use of ether and various other substances followed by nembutal and avertin. And it seems to me, looking at it merely as a surgeon, that there are no limits to the use of avertin; by which I mean it is not a drug which it is dangerous to give, either in the young or in the old. Dr. Scott recently gave avertin in a private case for me, to a woman aged 84, for the removal of a very fat breast for carcinoma, and she seemed to be perfectly satisfactory in every way. I removed her breast under avertin and 2 drachms of chloroform. So these basal narcotics not only relieve the patient of the fear of an anæsthetic—which, in most people, is far greater than the fear of the operation—but diminish the amount of anæsthetic used and so diminish the probability of ether complications.

Gastric lavage is employed pre-operatively, and is repeated every day, as occasion shall demand, in patients who show evidence of gastric dilatation. In most cases of gastric carcinoma, even without dilatation, it is good to wash the stomach out daily for a week or so before an operation is done, because there are always putrefactive changes in the stomach when it is the seat of carcinoma. And I think pre-operative washing out of the stomach might be employed more often than it is, because one notices that patients, particularly the nervous type of patient, digests his food badly for several hours, perhaps a day or so, before the operation; I suppose it is a case of fear inhibiting the flow of gastric juice. It is good to wash the stomach out in every case in which vomiting is occurring, to do it immediately the patient passes under the influence of the anæsthetic, just pushing down the tube and washing the stomach out. Cases of intestinal obstruction, if so treated, will probably take a more safe and comfortable anæsthetic, and so the possibility of inhalation pneumonia as a result of food getting into the respiratory passages is lessened.

If operation is being undertaken for an active ulcer, is there a danger of re-starting bleeding from it by the passing of a stomach tube? I think the danger of re-starting bleeding from a gastric ulcer, or even from a growth, is so small as to be practically negligible in comparison with the advantage of a good washing out of the stomach.

On returning the patient to bed, the first endeavour should be directed to keeping him warm, and the value of the electric cooker, which has been introduced into this hospital since the war, cannot be over-estimated. You see this electric cooker, with lamps inside it, every day; you are so familiar with the sight that you probably ignore it, and you probably go out into country practice, and when you get into your local hospital you think, "I want an electric cooker," and you will have forgotten the details of it. It would not take you long either to take the cooker to bits as it is or at least to get from one of the electricians details of its construction. In such matters as this one is so inclined to allow the opportunity to pass, without deriving the information which lies to hand. And this applies particularly to the

subject I am talking about to-day. For example, in regard to nursing, I wonder how many of you know how to make a bed; yet you have innumerable opportunities here every day of seeing how it is done and of getting many "tips" from the nurses on these small points which make so very much difference to the sick.

Of all the therapeutic measures which fall to the surgeon's lot to carry out after operation, the most important, undoubtedly, is the supply to the patient of an adequate amount of fluid. You may almost believe, when I have finished to-day, that in all I have told you in order to avoid the complications which are most common and troublesome after operations there is only one word of value—"water." One cannot be too eager to counteract post-operative de-hydration. The patient has lost fluid by various means during the operation—by sweating, bleeding, vomiting, in addition to pre-operative purgation; and, owing to this loss and partly owing to withdrawal of food, there is a danger of acidosis, the result of dehydration. Further, the patient requires to eliminate the toxins and various waste products by his urinary tract, so there is abundant need for washing out his kidneys by giving a considerable quantity of fluid. Every patient after having an anæsthetic, particularly if it is ether, is thirsty. After operation the surgeon should provide fluid in the form of half a pint of rectal saline (.9 per cent.); it is our usual practice to give with it 5 per cent. dextrose and a drachm of potassium bromide. It seems that the sequence of avertin followed by ether, and then a drachm of potassium bromide, in 10 oz. of rectal saline will keep an adult patient free from pain for a long time. So that if the operation is done in the morning the patient can go on until fairly late evening without any further narcotic or analgesic. Not that I wish to stress this as important; I would far sooner give a patient morphia or heroin at an early hour if necessary than put him through several hours of discomfort or pain. If fluid is necessary immediately after an operation because the patient has lost a good deal of blood, which is the commonest indication, the best method is to give it by the continuous rectal drip, the so-called "Murphy drip," starting as soon as the patient returns to the ward.

It is good to give the patient water freely by the mouth, hot or cold. You cannot do this if the operation has been a gastric one, when all fluids are withdrawn for 12 hours, and after then for another 12 hours only sterilised water is given by the mouth. Some surgeons withhold water by the mouth entirely for 24 hours, but, from the standpoint of reason, I am certain that 12 hours is more than an ample time. If a gastric suture-line is not safe after that time it never will be safe. And you cannot give patients fluids, even water, if they are vomiting. The water content of the body is 70 per cent. of the total body weight, so that in a person weighing 10 stone the water content is 7 stone. The loss of 10 per cent. of this is very dangerous, and 20 per cent. loss is fatal. I do not suppose many patients lose a stone of their body weight by dehydration, but still a patient may lose a great deal of water immediately after an operation. Some people advocate that patients be given 1,000 or 1,500 c.c. of water every 24 hours, while others insist on at least 3,000 c.c.—that is, roughly, five pints.

And we must remember the importance of water balance in relation to anuria, of which I shall speak again later.

We know that the kidney, when affected or diseased, cannot secrete, and therefore, particularly when influenced by an anæsthetic, a larger amount of urine must be passed to eliminate the toxins and waste products which are passing through the kidneys immediately after an operation.

Bear in mind, then, in relation to this question of water balance, the importance of recognising at once the presence of dehydration: dryness of the skin, parching of the mouth, the dry tongue, the thirst—all accompanied, as they progress, by acidosis.

What I have just said relates to giving water by the mouth; the next available method of giving water is by proctoclysis, either by a small retention enema of 8 to 10 oz., at 110° F., or by the Murphy drip. Books state that you can give 5 litres in 24 hours by the Murphy drip, but I think that patients do not, as a rule, retain that quantity of water. And if you give it too long, it taxes the patient's capacity to retain it, and if you start it again it is retained worse than before. Some give the patient normal saline, some give merely tap water, while others add to it dextrose (5 per cent.), which seems to be all for the good. And if there is any acidosis, bi-carbonate of soda can be added to the rectal fluid as well.

It was the common practice of Arbuthnot Lane to give every patient axillary saline during the course of the operation; nearly all these operations were laparotomies, and it was the routine to insert needles for the saline into the axilla immediately the patient passed under the anæsthetic. That habit has now fallen into disuse, but one should remember that hypodermoclysis is a method of giving fluid. This may be given under the breast, sub-mammary, but this is not as good as the axillary site. The best method of introducing the needle is not upwards and inwards, but down and backwards through the

anterior pectoral fold which is formed by the outer border of the pectoralis major. The needle is pushed through the muscle into the connective tissue of the axilla. In this situation as much as one or two pints may be given easily during and subsequent to the anæsthetic. I have had many years' experience of this method, both personal and by observation, and, so far as my recollection serves me, the evil consequences of hypodermoclysis have been negligible. Some writers avoid this method of introducing fluid because they fear the formation of sloughs. I have never seen sloughs from its use, and the stab wounds very rarely became infected, even when the patient was septic.

There are certain disadvantages in the method. One, if the saline is introduced under the breast, is the formation of fibrous masses in the fat and the mammary tissue. This results from necrosis, probably because the saline has been given too hot. The interest of these lumps clinically is that they have not infrequently been mistaken for mammary carcinomata. This disadvantage could not arise if the saline were injected, in the way I described, into the axilla.

You must remember that axillary saline, unlike the salt introduced into the rectum, cannot be got rid of by the patient, either voluntarily or involuntarily, so that where there is any danger of chloride retention, such as occurs in any case of nephritis, sub-cutaneous saline is not without risk; a common evidence of chloride retention in the body is the presence of œdema. Saline per rectum or hypodermically should not be given to patients who show evidence of renal insufficiency. The great disadvantage of giving patients inter-axillary saline is that it is so slowly absorbed; people whose circulation is enfeebled by operation absorb saline very badly.

I think the chief reason, or supposed reason, against the use of axillary saline was that some of the patients were found, at post-mortem, to have considerable œdema of the lungs, and this was attributed to the giving of fluid in this way. It may be bad physiology—I daresay it is—but, personally, I think patients benefit from the use of axillary saline, and the advantages were considerably greater than the disadvantages. I think that the patients treated in this way vomited less after operation, and suffered less from post-operative shock; also they had a smoother convalescence, and their pulse charts showed the advantage of giving fluid.

The common method we employ is to give a certain quantity of intravenous saline, with 5 per cent. dextrose added, as a massive injection—one single injection which stops as soon as the needed quantity has been given. Experimentally it has been found that neither blood pressure not pulse-rate is much affected as a permanent result of a massive injection given in this way, for both fall to the normal in an hour or two. This is taken to indicate that neither the common salt nor the dextrose remains in the circulation for longer than that period.

Various methods have been employed in the attempt to retain infused fluids in the circulation, of which Ringer's and Locke's solution is an example. And then, as you know, Bayliss found that if a colloid was added to the saline—he used gum—it would remain longer in the circulation and prevent the passage of fluid out into the subcutaneous tissue and lymph spaces of the body. Bayliss's colloid was intended to maintain the osmotic relationship, but, in actual practice, I believe this is found not to occur. Matas, of New Orleans, practises largely an adaptation of the Murphy drip; but if the intravenous drip is used for many hours, the patient must have his arm supported by a splint or a board, and the difficulty of maintaining the needle in the vein of a semi-conscious patient must be considerable.

One of our first duties in the post-operative care of patients is the patient's comfort, both bodily and mental. By the careful use of narcotics and analgesics one can ensure to him rest and sleep and freedom from pain. One of the minor complaints which a patient makes is that he is not, for some reason, comfortable; it seems there is not the same appreciation of the necessity of having a care about the minor ailments of patients and their surroundings and discomforts as formerly. This is, I think, one of the things not learned in hospital, but which you will be ready to pay attention to when you get outside it. There are so many little questions in relation to a patient who is in bed ill and has some serious complaint, and yet, in nine cases out of ten, it is not the serious malady to which your attention is directed, but some little petty worry, which perhaps at first one does not really appreciate and, if one does, one probably ignores. One is satisfied, or dissatisfied, with the patient's pulse, his temperature and his general state, and one forgets to inquire after, or even to treat after it has been found out, some petty ailment, such as backache, and probably it is this backache which is the chief trouble in the patient's mind. It is the little things of this world which make for one's comfort or discomfort, is it not? The wise dresser or house surgeon learns much from observation of the work of the nursing staff as to how a patient's comfort may be ensured, and no detail is too insignificant for consideration. The common position occupied by patients after an abdominal operation is the Fowler position. According to the practice of Murphy, it is exaggerated when

patients are suffering from peritonitis, and these are just the patients who suffer in that posture from backache. This is an almost constant sequela of operation in the present day. At one time I was in the habit of putting a small pillow under the patient's lumbar region before he was put under the anæsthetic; I suppose that somebody found that this did not really solve the problem, because if a practice does good one finds it is continued. But if you do not put a small pillow under the patient's lumbar region before you operate on him, it is good to do so directly he is in the Fowler position. It is just in this posture that the lumbar spine seems to have nothing to support it.

Most patients in the Fowler position are nursed with a pillow under their knees, but I wonder if you know that that pillow is never left in in hospital longer than four days. The reason for its removal at the end of four days is that, with the hips and knees bent, the movements of the legs are limited, and this may predispose to thrombosis of the femoral vein. I doubt whether, as a matter of fact, it has any such influence, but it is not a bad practice to limit the use of a pillow to a fixed period. Certainly patients who are nursed in the Fowler position with the knees and the hips flexed for more than four days do suffer from considerable muscular stiffness afterwards, which it is very difficult to banish.

The Fowler position does much for patients who have undergone laparotomy, as it frees the bases of their lungs. With the same object two methods have been introduced in recent times which, I think, are of the greatest value; one is to replace the many-tailed bandage by two or three strips of plaster or strapping. "Elastoplast" is very good, putting two or three strips across the dressing. This allows much greater freedom of the lower ribs than when a many-tailed bandage is applied. The second is the use of CO_2, of which I hope to speak later.

Twenty-four hours after an abdominal operation the patient begins to worry the surgeon by complaints of post-operative distension, which are called in America "gas pains." You will notice, as a rule, that they do not occur at once; there is a distinct interval after operation before they do occur. The most common measure to undertake immediately the complaint is made of gas pains is to see whether the dressings are too tight. The rectal tube is one of the best therapeutic measures which can be made use of; a soft rubber catheter, well greased, is passed into the rectum and left there, and some form of heat is applied to the abdomen, which is particularly easy nowadays by the use of electric flannels of all sorts, *e.g.*, Thermege, giving the patient an even temperature over the abdomen of 100° F.; this will do much to relieve these pains. These are colicky and recurrent, and they indicate an ineffective peristalsis. They vary very much with the nature of the operation, and are most marked when the patient has been subjected to a laparotomy. Every laparotomy is followed by a physiological ileus. On opening the abdomen, whether as a result of the incision or the anæsthetic, or both, you will notice that the hollow viscera are motionless; you will notice this particularly when the anæsthetic has been ordinary inhalation anæsthesia, because it does not occur after splanchnic or spinal anæsthesia alone. And if the gas pains which result from laparotomy are the result of an abnormal physiological ileus, they certainly can be aggravated by intra-abdominal manipulations, dragging on the omentum and on the mesentery, rubbing and pressing on the bowel and peritoneum, just as they are aggravated by preoperative purgation.

In spite of a very wide belief to the contrary, there is no experimental evidence that morphia aids post-operative inertia. So many doctors and sisters fear the free use of morphia after laparotomy because they think it will increase the probability of distension and gas pains. I do not know how this belief arises and whether it may be like so many things—clinically true and experimentally incorrect. I need only say here that it seems that the greatest factor in the production of post-operative distension is the swallowing of air. It is not due to any abnormal decomposition taking place in the intestine, or to any excessive diffusion or osmosis of gas from the blood stream. After every abdominal operation there is undoubtedly a condition of adynamic ileus, an abnormal immobility of the intestinal tract, a condition of paralysis which is, in a sense, protective, and which surgeons from time to time have sought by various means to prolong and intensify. At one stage of abdominal surgery—before your time—it was the practice of many surgeons to give the patient $\frac{1}{4}$ gr. of morphia every four hours, with the idea of keeping the bowels absolutely still. There is no evidence that it brought about this result.

Post-operative distension can be prevented to some extent, as I have said, by the use of splanchnic or spinal anæsthesia, either of which prevents inhibitory impulses passing down to the intestinal muscle, and one of the best ways to treat severe post-operative distension is to give the patient a spinal anæsthetic, a method which, when distension is serious, as it may be in some forms of intestinal obstruction, may be used daily for several successive days, so as to cut off that inhibition which normally controls intestinal peristalsis.

The most important thing about gas pains which are being treated by the means I have mentioned, or by the use of a few drops of an essential oil on sugar, or by even an enema, perhaps of turpentine, is to realise that they are trivial and not indicative of some serious complication such as peritonitis or obstruction. This problem—it is one which occurs almost every day in the life of any house surgeon, is solved partly by the patient's general condition and partly by the pulse. It does not matter how serious gas pains are if the pulse remains normal, and in practice one finds that there is no cure for gas pains as long as the patient remains on fluid diet. As soon as he passes on to solid diet and has had his post-operative dose of castor oil, the gas pains disappear.

There are one or two things I omitted to mention in the treatment of gas pains. One is pitocin and the other is the use of enemata. But there are so many treatments for gas pains that the criticism which you would naturally express upon them is that they are all equally inefficient.

When one is told by a nurse that a patient so many hours after an anæsthetic has not passed his urine, one naturally thinks, " I wonder whether he ought to have passed urine." How long may patients go without passing urine? I merely mention this question, which is an elementary one, because you should know that a patient may go 24 hours without passing urine without any ill effect. It shows that one is not giving the patient enough fluid; it is an indication for giving him more—that is, provided he has not passed urine because he has got retention. If he has got a suprapubic dull swelling and pain over the pubes it must be dealt with. But a patient who has bled a lot, or been sick several times, who also, it may be, has been drastically starved and purged before operation and who has, in addition, lost much fluid, often will not secrete urine for some time; he is suffering from anuria due to low blood pressure, and the indication is to give him fluid.

With regard to the treatment of retention, which is so common after operations on the pelvic organs, there seems to be no good answer to the controversy as to whether you should catheterise or not. Some people pass a catheter on a patient who has got retention on the slightest provocation. I think that the longer you can withhold it the better, though I do not believe in the practice which allows a patient to distend his bladder so much that the sphincter is finally overcome. There are many little dodges employed by nurses, such as the running tap, or sitting on the edge of the bed, or applying a hot fomentation to the abdomen. We are inclined to be critical of the young man or young woman who cannot pass urine in bed while flat on their back or the Fowler position. You try; lie flat on your back and try to pass your water—you will not find it easy.

There are many other post-operative complications of which I meant to speak to-day, but time does not allow: vomiting, hiccough, parotitis, chest complications, shock, and errors of acid base equilibrium.

A year ago I gave an address in Australia in which I stressed the interdependence of medicine and surgery, and the foundation of both on the preliminary sciences of chemistry and physics. I pointed out that the modern surgeon must have a working knowledge of these subjects. And if, after many years' teaching in this School, in my last lecture I may give you a piece of advice, it is that you shall retain, and from time to time renew, your knowledge of the preliminary sciences, without which you will, I think, fail to regard the matter of treatment in the scientific spirit which it demands.

In conclusion, I would like to say to you that I have been teaching in this School 35 years; I have been giving clinical lectures for 30 years, and I do so to-day with no less fear and discomfort than when I delivered my first. You may not agree with that, you may think I am " talking hot air," but I have, for three or four days before a lecture, a cold, chilly feeling about my epigastrium and I am rather more unpleasant to live with than I usually am. I say this to you because I think that when you, as young men, have to get up and address an audience you will feel in a funk, and you may be in such a funk that you will refuse to do it. If you refuse once, you will always refuse. Don't refuse. And again, if you do lecture or make a speech, do not do so out of your head spontaneously. I have given a lecture to-day which you may think any surgeon who has been on the staff over 25 years could give out of his head. I have read the greater part of a book of 800 pages for the purposes of this lecture, and I am sure it took me five hours to write out the notes on which this lecture is founded. If you work for your lectures you will find you will give better lectures; bad as they may be, they would have been worse if you had not carefully prepared them. And do not think yourself unusual if you are frightened when you get up to address an audience. Four years ago I sat next to a very great surgeon whose health I had to propose at a dinner, and he said, " Are you nervous? " and I said, " No, not particularly; I have memorised what I am going to say about you." He said, " I was sitting next to an ex-Prime Minister the other day, and we were both going to make speeches, and the ex-Prime Minister said he was nervous, but added, " I never speak well unless I am."

The Debating Society

THE Guy's Hospital Debating Society met in the College Smoking Room on Tuesday, 7th March. Mr. Evans was in the Chair. The subject for debate was: "That in the opinion of this House the Surgeon should be paid no more than the Carpenter." The discussion was bright and vigorous, the four main speeches being the best set of the season. It was, therefore, a great pity that the house was a small one, but it is hoped that this was merely due to the unfortunate but necessary postponements of this debate.

Mr. LEES, in proposing the motion, attacked the surgeon with such vigour and eloquence that he almost forgot the carpenter. Gone were the days, he said, when the carpenter was an honest craftsman and the surgeon an efficient barber. How do these two stand in these sinful and degenerate days, when no ideals are left and men work only for money? The carpenter has become prosperous, using glue instead of a dovetail, and the surgeon a meddler with life, gaining men's confidence that he may destroy their morale. They were both rogues, as were we all from tinker, tailor, to beggarman, thief, and as the wages of sin is death, the surgeon deserves no more than the carpenter.

Mr. READING opposed. He agreed with Mr. Lees that the times were out of joint, but pointed out that surgery was more than beginning with a knife and ending with a safety-pin. Surgery was an art, and though he realised it must be difficult for us to see this, both the dresser in the Back Surgery tentatively opening a boil and the surgeon in Vienna cutting the stomach into ribbons under local anæsthesia were exercising an art, and we dare not deny it. When we were in the barber's chair we paid a shilling for our helpless discomfort, and as the position of a patient is more helpless and more uncomfortable he should pay more; for this was his gratitude and that was all the surgeon desired.

Mr. MANN seconded the proposer in a very sound speech. Civilisation to-day was at one with the great civilisations of the past in that it depended on slave, or what is now called "sweated," labour. In an ideal state, where opportunity would be equal, the most suitable man would be found for both the posts of surgeon and carpenter. It was therefore logical that they should both be paid equally. Unfortunately, Mr. Mann did not bring his points to bear sufficiently strongly on the motion.

Mr. ROGERSON, seconding the opposer, made the best speech of the evening. Although a physician, he joined hands with a brother surgeon to defend common ideals and a common art. Medicine was the most scientific of the arts and the most artistic of the sciences. At the beginning of this century science gave promise of explaining everything objectively—matter was atoms balancing like billiard balls on poles, thought a conditioned reflex, and character a balance of internal secretions. In this mechanist universe the surgeon would certainly be as material as a carpenter. But Nicholson and Morley, as we know so well, by their failure to measure the rate of ether drift, had paved the way for Einstein, who had left us shivering naked in a void of space-time continuum, vitalists once more. (We were flattered.) Let us realise that life is more than its component parts, and that he who works with life is to be rated more highly than he who works in a dead medium. The sooner this was realised the sooner would the world be a fit place for surgeons to live in. A first-class speech.

The motion was then put to the House for discussion.

Mr. COLBECK advocated a flat rate for surgeons with a deduction for bad results.

Mr. DAVIES also favoured physicians against surgeons, but did not mention carpenters.

Mr. VINES pointed out that Chippendale and Gibbons earned and deserved more than a surgeon. Would Epstein be merely a carpenter if the atrocious Genesis had been made of wood?

Mr. GAREH jumped up to say that if Genesis had been made of wood it would have been burnt.

Mr. STAMM damned the proposers and made the astonishing statement that Mr. Colbeck showed the typical mind of a physician.

Mr. TODD made a good point. We were not, as the proposer had suggested, cynical because we had no ideals, but because we were disillusioned. Mr. Todd gave us time for this point to sink in before he sat down.

Mr. HODGKIN loudly and eloquently upheld the surgeon. To be a surgeon was the ideal of all medical men, and every physician was merely a failed surgeon. The surgeon alone had a creed to live for. The surgeon's creed was: "I believe in the free letting of laudable pus;" but the carpenter said, "I doubt it," with a bitter tear.

Mr. BOLTON said that everyone had talked sheer rot.

In summing up for the opposition Mr. READING brought tears to our eyes by taking us back to our mothers' knees reciting "Little drops of water." How we had degenerated! After nine years at Guy's he was a disillusioned man. He pointed

out that there " ain't no good in man," and asked where a " virtuous woman could be found " (*Proverbs* 31, x). In this wicked world the surgeon alone by his devotion to duty and unselfishness deserved more than his daily bread. He himself would be content with only one car.

The last word was with Mr. LEES. As a humble apothecary he linked himself with other humble men, ate his dinners in simple Company and did not strive, like the surgeon, for crumbs from the rich man's table. The surgeon was not worthy of his hire.

The motion was then put to the vote and defeated by 20 votes to 5, with one abstainer.

The Society is very grateful to Mr. Evans for taking the Chair, for keeping the debate moving in such an amusing manner, for his helpful suggestions and his promise of continued active support.

The Guy's Hospital Dental School Clinical Meeting

A VERY successful Clinical Meeting held in the Dental Department of Guy's Hospital in the afternoon of Saturday, February 25th, was well attended by about 400 past and present students.

In the Out-Patients' Department Mr. A. D. Marston demonstrated the McKesson Gas Apparatus, whilst Mr. Kelsey Fry operated on a series of cases of difficult extractions.

Mr. D. W. C. Northfield performed an epithelial inlay, and Mr. H. M. Worth gave a demonstration of dental radiographs.

In the Laboratory, histological and bacteriological demonstrations were given by Mr. G. B. Pritchard, Mr. A. Bulleid and Mr. C. S. Henderson. Laboratory experiments in connection with non-metallic denture bases were shown by Mr. E. Matthews, and methods for the investigation of the properties of amalgam were demonstrated by Miss Gayler (Dental Board) of the National Physical Laboratory. Various technical procedures were shown by dental mechanics.

In the Denture Room prosthetic cases of interest were shown by Mr. F. A. Walker, whilst demonstrations of Dentocoll impressions and anatomical articulation were given by Mr. D. S. Clogg and Mr. A. R. F. Thompson.

In the Conservation Room, clinical cases were shown by Mr. E. B. Dowsett and Mr. G. B. Pritchard, orthodontic cases by Mr. F. Bocquet Bull and Mr. R. Rix; and there was also an exhibit of the work of the Phantom Head and Tooth-Carving Classes.

Other demonstrations included :—

The Surgical Removal of Teeth. Mr. F. N. Doubleday.

Surgical Preparation of the Mouth for Dentures and Technique for Mandibular Injections with a Curved Needle. Mr. W. Kelsey Fry.

Operation for Dental Cyst under Local Anæsthesia. Mr. H. L. Messenger.

Correction of Speech Defects. Mr. St. John Rumsey.

The Brillat Porcelain Inlay Technique. Mr. K. Hooper.

Gold Inlays by the Indirect Method and Bridgework. Mr. W. E. Herbert.

Apicectomy. Mr. E. A. Lloyd.

Alveolectomy under Local Anæsthesia. Mr. J. W. Mansie.

Porcelain Crowns, using the Swaged Base Technique. Mr. F. S. Warner.

The meeting was much appreciated by old Guy's men, and it is hoped that it will become an annual function.

ANNUAL DINNER

The 34th Annual Dinner of the Dental Society was held in the evening at the Trocadero Restaurant. The President, Mr. F. S. Warner, was in the Chair, and a record number of 362 past and present students and guests were present.

The loyal toasts having been duly honoured, Mr. George Northcroft, President of the British Dental Association, in a short but appropriate speech in which he pointed out the high standard of the tradition of Guy's, proposed the toast of the " Guy's Hospital and Schools."

Replying, Mr. C. H. Fagge, Senior Surgeon to Guy's Hospital, drew attention to the great benefit which the Dental School had derived from the appointment of a whole-time teacher of Operative Dental Surgery.

The toast of the Visitors, among whom were the various members of the Examining Board of the College of Surgeons and the representatives of the Army and Naval Dental Services, was proposed by Mr. Kenneth Hooper. Mr. A. T. Pitts, in a humorous vein, returned thanks on behalf of himself and his fellow-guests.

Mr. G. B. Pritchard proposed the toast of the President, who in reply pointed out that the very successful arrangement of such a large dinner depended almost entirely upon an energetic secretary, the toast to whom was drunk with acclamation.

During the evening, the Western Brothers provided some of their well-known and ever-popular songs.

The dinner proved a very pleasant ending to an enjoyable and profitable day.

Nursing News

WE are very pleased to announce that Mr. Eason has been appointed by the Minister of Health to serve on the General Nursing Council.

Below is a complete list of the new General Nursing Council :—

LIST OF MEMBERS, 1933
ELECTED BY NURSES ON THE REGISTER

General Nurses

Miss W. Bowling, Royal Infirmary, Sheffield.
Miss R. A. Cox-Davies, C.B.E., R.R.C., 2, Grenville Street, W.C.1.
Miss R. E. Darbyshire, R.R.C., University College Hospital, W.C.1.
Miss H. Dey, R.R.C., St. Bartholomew's Hospital, E.C.1.
Miss M. A. Gullan, St. Thomas's Hospital, S.E.1.
Miss E. S. Innes, R.R.C., D.N., General Infirmary, Leeds.
Miss M. Jones, A.R.R.C., Royal Infirmary, Liverpool.
Miss A. Lloyd-Still, C.B.E., R.R.C., St. Thomas's Hospital, S.E.1.
Miss E. E. P. MacManus, O.B.E., Guy's Hospital, S.E.1.
Miss Musson, C.B.E., R.R.C., LL.D., South Mead, Ewell, Surrey.
Miss M. E. Sparshott, C.B.E., R.R.C., 49, Avenue Road, Penge.

Male Nurses

Mr. John Southwell, 107, Southwood Lane, Highgate.

Mental Nurses

Miss K. M. Willis, Mental Hospital, Caterham.
Mr. J. H. Buckley, 106, High Street, Arlesey, Beds.

Sick Children's Nurses

Miss E. M. Cockeram, A.R.R.C., Children's Hospital, Birmingham.

Fever Nurses

Miss S. A. Villiers, J.P., 4, Green Street, Stevenage, Herts.

APPOINTED BY THE PRIVY COUNCIL

The Viscountess Erleigh, 65, Rutland Gate, S.W.7.
The Countess of Limerick, 10, Evelyn Gardens, S.W.7.

APPOINTED BY THE BOARD OF EDUCATION

Mrs. J. S. Courtauld, 9, Grosvenor Square, W.1.
Miss E. R. Gwatkin, M.A., Streatham Hill High School.

APPOINTED BY THE MINISTER OF HEALTH

Dr. M. A. Collins, O.B.E., Kent County Mental Hospital.
Mrs. M. H. Kettle, M.R.C.S., L.R.C.P., c/o *The Lancet*, Adam Street, W.C.2.
Mr. W. H. Harper, The Royal Hospital, Wolverhampton.
Mr. H. L. Eason, C.B., C.M.G., M.D., M.S., Guy's Hospital.
Dr. C. Porter, M.D., C.M., Town Hall, Marylebone, W.1.

Reviews

Handbook of Bacteriology, for Students and Practioners of Medicine. By JOSEPH W. BIGGER. Published by Messrs. Bailliere, Tindall & Cox.

THIS is the third edition of Professor Bigger's now well-known book. It has been revised throughout, and slightly re-arranged. It is pleasing to observe, however, that its length has only been increased by eight pages. It is printed on good paper and contains numerous illustrations.

This book is intended for " students and practioners of medicine," and for this reason it appears to be a pity that so many important matters are passed rapidly by in order to leave space for less important. For instance, the space given to the methods of preparation of media is approximately equal to that assigned to the virus diseases. Surely to those for whom this book is intended vaccination alone is of more importance than the whole of the bacteriologists' recipe book; to enjoy a meal one does not require a knowledge of the number of eggs in the pudding.

Again, were it not better to include in a book of bacteriology for practitioners a good coloured photograph of the skin reactions in the Shick or Dick tests rather than a plate showing the sugar fermentations of the coli-typhoid group? The

Shick test is an important bacteriological investigation within the scope of every medical man, whereas the fermentations are not. Moreover, such data as the sugar reactions is readily obtainable from text-books, and the memorisation of it is neither useful nor an exercise of the mind.

This is, perhaps, more a criticism of the examiners for whom he has to provide than of Professor Bigger's excellent book, which will certainly continue to hold the place which it has quickly established for itself as a text-book of bacteriology to be used in preparation for examinations.

J. C. C.

A Synopsis of Surgical Anatomy. By A. LEE MCGREGOR.

THIS book is an addition to the well-known "Synopsis" series. Actually, the title could have been better chosen, for it is not strictly speaking a synopsis, although the arrangement of the subject matter corresponds with others in the series.

It is divided into two parts, the anatomy of the normal and that of the abnormal. The first part is a good description of many isolated regions of surgical importance, but it is curious that, although seven pages are devoted to the pituitary gland, the middle ear receives practically no mention.

The anatomy of the abnormal includes a full account of congenital errors, nerve injuries, the lymphatics and the sympathetic. The anatomical bases of clinical tests are fully discussed, and there is a very good chapter on rectal and vaginal examinations.

This is not a book for the student who wishes to revise his anatomy before the final examinations, but it can be thoroughly recommended to those preparing for the higher surgical examinations who already have a fair knowledge of general anatomy. The style is clear and concise, and the diagrams are as excellent as they are numerous.

Filterable Virus Diseases. By JOSEPH FINE. 1932. Published by Messrs. E. & S. Livingstone, Ltd.

THIS book will doubtless be of great use to medical students and others who wish to obtain a general knowledge of the virus diseases. It is short and easily read, and contains a great amount of very interesting matter.

The evidence for the existence of filterable viruses appears to be little known by most medical men. The mention of a "filterable virus" brings a smile of cynicism to the faces of some, while the term is used in a mechanical way by many to indicate that a disease is transmissible, but of unknown ætiology. It is indeed much to be deplored that so much time is spent in the teaching of systematic bacteriology at the expense of the virus diseases, when most of the epidemic diseases are due to filterable viruses.

The usefulness of this book is greatly increased by the inclusion of a short bibliography at the end of each chapter.

The discussion of Noguchi's work on the leptospira and yellow fever, and of Stokes and his collaborators, will be of interest for various reasons. The chapter on the common cold is rather short, but this is, perhaps, counter-balanced by the fact that a good bibliography is added, all the references being readily available and are in English. The chapter on Disseminated Sclerosis will require much alteration in subsequent editions.

We recommend this book most whole-heartedly, and hope that it will receive from the medical men the attention which it deserves and from the author the revision which will be needed from time to time as new facts are added to this important science.

J. C. C.

A Medical Handbook for Nurses. By J. STEWART, S.R.N. Published by Messrs. Faber & Faber, Ltd. *Price* 6*s.*

MISS STEWART has given the nursing world a thoroughly good and up-to-date book. There is in this neat volume all the medical knowledge a senior nurse may need for her Final Examinations or a qualified nurse may require in private practice.

Since the study of medicine covers such a large area it is a pleasure to meet a book that keeps to its subject in such a satisfactory manner.

In this book each chapter is given over to one of the systems of the body. The diseases common to that system are given, with treatment, diet and drugs respectively laid out in a clear, concise manner.

Also included are chapters on "Pyrexia," "An Inflamed Organ" and "Constitutional and Deficiency Diseases." A simplified Materia Medica is given, while an Appendix, which deals with laboratory tests of urine and the simpler tests that the nurse must know, is included.

Correspondence

The Debating Society

To the Editor of the GAZETTE

SIR,—We feel that the revival of the Debating Society is a Good Thing. In our opinion, however, the committee, in their choice of subjects, have not shown that breadth of vision which should characterise a live society. Is it possible that they are being influenced by the tradition and narrow restriction of the medical profession, which its founders sought to avoid?

Yours, etc.,

R. H. BOLTON.
T. F. TODD.
C. H. ROGERSON.

Guy's Hospital,
S.E.1.

P.S.—May we suggest as two subjects for future debate: (1) That this House disapproves of the Wrong People; and (2) That this House disapproves of Censorship.

Football Association Cup Final

To the Editor of the GAZETTE

SIR,—A few tickets at 10*s.* 6*d.* and 5*s.* 6*d.* for the Football Association Cup Final at Wembley in April have, as yet, been unallotted.

Applications for these should be sent to me at once, indicating the number and price required.

Yours, etc.,

L. COSIN,
Hon. Sec., G.H.A.F.C.

Guy's Hospital,
S.E.1.

Sport

Rugby

Inter-Hospitals Cup Second Round

Guy's v. St. Mary's

AT Richmond, on Tuesday, February 21st, Guy's qualified for the Semi-Final by defeating their opponents in last year's Final by 2 penalty goals and a try (9 points) to a placed goal and a try (8 points).

As the score indicates, it was a very close contest, fought out at a fast pace from beginning to end. During the first half Guy's had the advantage of a strong wind which blew straight down the field, and they needed a good lead to make their position safe at half-time. However, St. Mary's put up such a determined resistance that at the interval Guy's only had an advantage of six points; this might have been even less had Henley succeeded with a well-directed penalty kick which just failed to reach its objective.

Unfortunately for Guy's, Wright, their right wing three-quarter, was injured after 20 minutes' play, and for the remainder of the game was practically a passenger, but towards the end he made a splendid tackle of his opposite number when the latter had the line at his mercy.

Hogbin kicked two penalty goals for Guy's in the first half, and after half an hour's play Giesen made an excellent run before sending Johnson over in the corner.

Before this, Henley made a splendid attempt to kick a penalty goal from a difficult angle and against the wind, but just failed.

Near the interval, Hopkin followed up a kick by Ryan and, luckily, the ball bounced in his favour and he just managed to cross for an unconverted try. With the advantage of the wind, St. Mary's pressed strongly, and a good dribble by Henley and Parry gave Cross his opportunity to run over for a try, which Henley converted.

Only a point now separated the scores and the excitement was intense. St. Mary's attacked harder than ever, but Guy's stuck to their task splendidly and their defence was magnificent. Time after time they relieved by forward rushes or clever kicking to touch, and kept their opponents at bay.

Richmond had a possible chance of scoring for St. Mary's when he chose to pass instead of carrying on himself. In addition, both Squire and Cross made efforts to drop a goal, but missed.

However, near the end Guy's fought back and both Giesen and Alexander made excellent efforts to get through, but there was no further scoring and the game ended amidst much excitement, with Guy's the winners as stated.

Team.—W. B. Clegg; A. G. Johnson, J. E. Giesen, P. C. Alexander, C. G. Wright; I. K. Thomas, V. H. Bowles; M. L. Walt, J. P. O'Shea, C. S. Darke, I. G. Robin, R J. Drummond, T. Morgan, R. A. P. Hogbin, M. R. Kark.

Inter-Hospitals Cup Semi-Final
Guy's v. Westminster

ON Thursday, March 2nd, Guy's reached the Final as the result of an easy victory over Westminster by 7 goals (1 penalty) and 5 tries (48 points) to nil.

It must have been very trying for both teams, as it rained incessantly throughout the game. However, Guy's adapted themselves to the conditions and gave such a delightful exhibition that they established a commanding lead early in the game. The back division handled the greasy ball with admirable precision, and were yards faster than Westminster. In the closing stages Guy's played with great confidence and, adopting a close echelon formation in which the forwards participated, they carried out many close passing movements which simply bewildered the opposition, and Guy's scored at will.

On the other hand the score sheet gives no idea of the share of play which our opponents had in the first half and for 20 minutes after the interval. During the latter period Westminster prevented Guy's from scoring, and this was mainly due to some excellent tackling by their full-back, J. G. Williams and A. C. D. Parsons.

In the set scrums Westminster held their own, and the hooking of Guy's was not so good as usual. However, this did not prevent Guy's from getting the ball, and the triangle of Thomas, Giesen and Alexander was always dangerous whenever they had a chance. Within five minutes Guy's took the lead when Johnson took a pass from Giesen and, although he slipped when faced by the full-back, he made a good recovery and ran over in the corner for Hogbin to convert from near the touch-line.

Guy's were on the attack, but offside in their opponents' 25 sent them back. Thomas broke through, but Giesen failed to accept a difficult pass, and from the scrum that followed Bowles stole away on the blind side and sent Lindsey away on the right; however, Westminster saved right on the line.

Immediately afterwards the ball was passed with remarkable rapidity via Thomas and Alexander to Lindsey, who had an easy opportunity to score an unconverted try. A brilliant try was next scored by Alexander, who received from Giesen and, feinting to pass to the right, slipped through the centre to touch down behind the posts, but Hogbin missed an easy chance to convert.

After Johnson had made a clever run on the left and Hogbin had attempted to convert a penalty, the ball came to Giesen, who was through the centre in a flash to register another unconverted try.

Another splendid run by Alexander during which he changed his step and, cutting inwards, gave Giesen the opportunity to score a "copy-book" try behind the posts, to which Hogbin added the goal points.

Near the interval, Alexander scored another try for Guy's, and again Hogbin converted.

In the early part of the second half both Alexander and Giesen made praiseworthy attempts to cut through, but Williams at full-back brought off some glorious tackles, and it was not until they were awarded a penalty for offside did Guy's add to their score, Hogbin being the scorer.

After this Westminster tired under severe pressure, and Guy's attacked continuously. Alexander cut through with Giesen and Johnson in support; when faced by the full-back he passed to Johnson, who just managed to race over. A minute later a combined movement between Alexander and Giesen ended in the latter scoring behind the posts, Hogbin converting.

During the final minutes tries came quickly to Guy's through Johnson, Morgan and Thomas, two being converted by Hogbin.

Team.—W. B. Clegg; A. G. Johnson, J. E. Giesen, P. C. Alexander, M. J. Lindsey; I. K. Thomas, V. H. Bowles; M. R. Kark, J. P. O'Shea, C. S. Darke, I. G. Robin, R. J. Drummond, M. L. Walt, R. A. P. Hogbin, T. Morgan (Capt.).

Guy's v. Leysians

PLAYING at home on Saturday, March 4th Guy's were successful by 2 placed goals and 5 tries (25 points) to a placed goal and a try (8 points).

At the interval the Old Boys, with the advantage of a strong wind, were leading by eight points to three, but after half-time Guy's so thoroughly dominated the play that the visitors seldom crossed the half-way line.

Guy's took some time before they settled down, but once they had taken the measure of the Old Boys there was no holding them. Again adopting the close echelon formation and flinging the ball about with rare abandon, Guy's had the opposing defence in a tangle time after time.

From the kick-off the Hospital backs carried out several bouts of passing, but Kilmer was too fast for Hamilton and Giesen, and the left wing made very little progress.

Drummond was hurt during a forward raid, and whilst he was off the field the Old Boys scored two quick tries. The first came when Kilner gathered a punt ahead by Hamilton and, racing through the Hospital defence, sent in Lumsden for a try. A minute later the Old Boys' forwards carried out a splendid dribble and

Alliston had no difficulty in crossing near the posts for Philip to convert.

A splendid run by Lindsey should have resulted in a score for Guy's, but he was not supported and the visitors touched down.

Near the interval a great run by Alexander took him to the full-back, and Lindsey had an easy task to score an unconverted try in the corner.

Guy's started the second half with great determination, and twice the Old Boys were compelled to touch down. From a five yards' scrum the ball came via Alexander and Thomas to Giesen, who just managed to cross near the posts, and Hogbin converted with ease.

Another fine piece of work by Alexander resulted in Lindsey crossing in the corner to give Guy's the lead. Later, a movement between the threes nearly led to another score when Lindsey cross-kicked and, although three of the Hospital forwards were waiting for the ball, they all missed and the Old Boys touched down.

Almost immediately, Thomas cut through beautifully and scored a clever try, but Hogbin hit the near upright with the goal kick.

The Old Boys made a brief visit to the Hospital's 25, but Hogbin intercepted and made a brilliant run for three-quarters of the field and, after handing off several would-be tacklers, scored a great try in the corner.

A combined movement between Thomas, Giesen and Alexander led to the latter scoring a perfect try between the posts, and Hogbin added the extra goal points.

Before the finish Drummond fielded the ball from a drop-out and flung out a long pass to Giesen, who ran through to score another try, but again Hogbin hit the upright when trying to convert.

Team.—W. B. Clegg; W. H. Hamilton, J. E. Giesen, P. C. Alexander, M. J. Lindsey, I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, R. J. Drummond, M. L. Walt, R. A. P. Hogbin, T. Morgan (Capt.).

Association

Inter-Hospitals Cup Semi-Final

Guy's v. St. Thomas's

THIS game was played on the London Hospital ground and resulted in a win for St. Thomas's by 1 goal to nil.

Guy's started off with the wind behind them but facing the sun, which made it very difficult to sight the ball. A good run by Rees on the right soon put Guy's on the attack, but the ball rolled out of play.

The game was now transferred to the centre of the field, where Milligan was conspicuous for St. Thomas's. The opposing outside right broke through owing to a defender misjudging the ball, and Stoneham came out to make a great save. For the last quarter of an hour of the first half the ball rarely left St. Thomas's half, and all the forwards put in shots, some of which were rather erratic. Half-time was taken without either side having scored.

In the second half St. Thomas's had slightly more of the game, although Guy's forwards, especially the right wing, were always dangerous. Rees and Harvey were continually making good runs, but only to find themselves overwhelmed by force of numbers.

A rush along the left by St. Thomas's resulted in a good shot, which the goalkeeper dived at and turned round the post. The corner caused a scrum in the goal-mouth, which was eventually cleared. About a quarter of an hour from the end came the only goal of the match. A very long kick down-field towards goal resulted in the goalkeeper coming out, but the ball bounced on an uneven piece of ground and St. Thomas's outside left secured it and centred for Barker to give St. Thomas's their winning goal.

After this reverse Guy's attacked strongly, but could not get past a stubborn, hard-kicking defence. Thus a very enjoyable game resulted in a win for St. Thomas's by 1 goal to nil.

Team.—F. J. R. Stoneham; G. M. Johnson, D. A. Priestley; C. A. Boucher, S. E. Osborne, R. L. I. Henderson; G. G. Rees, R. Harvey, W. A. Groom, A. J. Colbert, H. Jones-Lewis.

Hockey

THE Annual General Meeting of the Hockey Club was held on March 11th, at 7.45 p.m., at the Inns of Court. The President, E. P. Poulton, Esq., took the Chair.

Mr. Poulton was unanimously elected to a further term of office, as were also the Vice-Presidents. The following officers were elected for the season 1933-34: Captain, A. G. Richmond; Vice-Captain, L. N. Trethowan; Hon. Secretary and Treasurer, J. W. Dryland; Hon. Fixture Secretary, J. Elliott; Assistant Hon. Secretary, F. R. Buckler; Secretary, 3rd XI, H. R. Franklin.

The Secretary was able to report that the 3rd XI had been fully recognised by the Clubs' Union, and further evidence of increased keenness in the Club has been shown this season by the fact that a 4th XI has played about eight matches.

The meeting was followed by a Dinner, held in the Regimental Mess of the Inns of Court Regiment. The President, who again kindly took

the Chair, in proposing the toast of "The Club" gave a most interesting account of the origin of hockey, together with some reminiscences of the men who were early exponents of the game. A. G. Richmond, in responding, regretted the enforced absence of the Captain, C. A. Clarke, and Vice-Captain, S. W. Wright, both of whom are on the sick list. He further expressed the hope that the present keenness shown would result in the return of the Hospitals' Cup to Guy's in the near future.

J. Elliott, in proposing the toast of "The President," referred to the days when Mr. Poulton played for the Hospital, at which time Guy's held the Cup for seven successive years.

A very enjoyable evening was spent by all present, and thanks are due to Mr. Elliott for his admirable arrangements.

Cricket

AT a meeting of the Cricket Club on Tuesday, 14th March, with the President, Prof. T. B. Johnston, in the Chair, the following elections were made :—

President.—Prof. T. B. Johnston.

Vice-Presidents.—Mr. C. H. Fagge, Mr. A. Bulleid.

Captain.—S. M. Whitteridge.

Vice-Captain.—R. V. Payne.

Hon. Treasurer and Secretary.—T. D. H. Ridsdale.

Committee.—H. Cameron, G. V. Doherty, J. A. G. Starnes, N. E. Gillham, G. C. Wright, P. C. Alexander.

T. D. H. RIDSDALE,
Hon. Sec.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
February, 1933.
Medicine.

T E. Mitchell *L. Wailer

Forensic Medicine
J. G. Q. Brown
Midwifery.
J. B. Frumin
* Now holds Diploma.

Appointments

N. Burgess, M.A., M.D., M.R.C.P., Physician in Charge of Skin Department, General Hospital, Bristol.

W. H. Miller, M.D., F.R.C.S., Hon. Senior Surgeon, County Hospital, Bedford.

Changes of Address

E. B. L. White, L.D.S., Cleveland, York Road, Cheam, Surrey. *Sutton* 269.

F. N. Corfe, M.R.C.S., L.R.C.P., L.D.S., 196, Muswell Hill Road, N.10. *Tudor* 1727.

Surg.-Lieut. H. A. Clarke, c/o The Admiralty, Whitehall, S.W.1.

C. Keith Simpson, M.D., 24A, Portland Place, W.1. *Langham* 4124.

Papers by Guy's Men

A. C. R. McLeod. Incisor tooth deficiency in three generations. *Dent. Rec.*, 1933, liii, 21.

F. H. Sicklemore. Coronary pulpectomy. *Dent. Rec.*, 1933, liii, 74.

W. H. Ogilvie. Early diagnosis of malignant disease of colon. *Pract.*, 1933, cxxx, 163.

E. B. Smith and E. O'Flynn. Familial hepatomegaly of uncertain pathology. *Lancet*, 1933, i, 297.

R. A. Greeves. Modern operative treatment of detachment of retina. *Lancet*, 1933, i, 299.

F. H. Dodd. Some practical suggestions for dealing with everyday psychological problems in child life. *Pract.*, 1933, cxxx, 78.

P. N. B. Odgers. Lumbar and lumbo-sacral diarthrodial joints. *J. Anat.*, 1933, lxvii, 301.

J. A. Ryle. Prognosis and treatment of lobar pneumonia. *Lancet*, 1933, i, 345.

J. W. Shackle and W. S. Copeman. Glucose tolerance in rheumatoid arthritis. *B.M.J.*, 1933, i, 268.

M. E. Shaw. Non-familial acholuric jaundice (hæmolytic anæmia). *Proc. R.S.M.*, 1933, xxvi, 369.

H. W. Barber. Pustular psoriasis of extremities. *Proc. R.S.M.*, 1933, xxvi, 329.

L. Forman. Pseudo-pelade with lichen planus. *Proc. R.S.M.*, 1933, xxvi, 333.

A. E. Rowlett. Gnathodynamometer and its use in dentistry. *Proc. R.S.M.*, 1933, xxvi, 463.

J. D. Cambrook. Sequestrum of palate. *Proc. R.S.M.*, 1933, xxvi, 471.

G. B. Pritchard. Origin and growth of composite odontome. *Proc. R.S.M.*, 1933, xxvi, 472.

O. G. Morgan. Operation for ptosis. *Proc. R.S.M.*, 1933, xxvi, 460.

W. H. Ogilvie. Place of operations on sympathetic system in treatment of poliomyelitis. *Proc. R.S.M.*, 1933, xxvi, 429.

R. H. Swan. (1) Massive bilateral renal calculi; (2) Unilocular cyst of kidney. *Proc. R.S.M.*, 1933, xxvi, 487.

C. R. Rudolf. Eight letters of Joseph, Lord Lister, to William Sharpey. *Brit. J. Surg.*, xx, 145, 459.

Births

LONGHURST.—On 24th February, 1933, at the Hospital, Minehead, to Harriette, wife of George B. Longhurst, "Netherleigh," Minehead—a daughter.

ROBINSON.—On 28th February, 1933, at Arundale, Epsom, to Hilda Mary (née Prentice), wife of T. G. Robinson—a son.

Death

BRYANT.—At her home, Nayland, Marlborough Road, Ipswich, after 13 years' illness and finally from acute bronchitis, Mary Harriet Bryant, aged 42 years.

EDS. { E. S. / M. J. McA.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVII | *1st April, 1933* | *Number 1166*

PASSIM

RARELY can it be said that the younger section of society is the more conservative element. There are always some we know who will cling to tradition more rigidly than their fathers, but, as a rule, the prerogative of youth, whether it be in religion, art, politics, or even self-decoration is a spirit of iconoclasm, a tendency to break away from established thought and an impatience with any custom that seems to rely on tradition solely for its merits.

Modern youth is, we are told, particularly forward in this respect, and therefore it seems to us very significant that the proposal of the Court of Governors to alter one of the long-established traditions at Guy's and shorten the take-in from a week to four- and three-day periods should have met with such wholesale and unanimous adverse criticism from the Residents and from those who have recently finished their house appointments.

Whether it be in the Residents' Room, the Surgery, the Park on a fine day or in those other spots where one is wont to meet and gossip, we have not heard one word in favour of the proposal, from either houseman, dresser or ward clerk. The letter from the Residents this week published on another page speaks for itself, and we know that it represents the opinion of many more who, though not housemen, have some experience of the present system.

However charitably inclined to a new idea coming from those in authority, it has been difficult for us to realise the advantages of the new proposal. It has been arranged that, though the week is to be split up, each firm will take-in for one four-day and one three-day period in each consecutive fortnight. This, although a fair division of labour in the matter of hours, hardly seems to be fair in other ways. Unless the order of physicians and surgeons is to be altered from week to week, and this would involve chaos indeed, two firms will always be doomed to take-in during the week-end. The two house surgeons so unhappily placed will, indeed, have a healthy time, for they will be H.S. and ex-H.S. respectively every week-end during their term of office!

This salient point alone nullifies the suggestion that this step was taken out of consideration for the health of the house officer; it has been done without in any way consulting him, and we have never heard any complaints that seven days is too long to be on duty at a stretch. Of course, there have been many rumours, and most prominent amongst them has been the suggestion that the assistant surgeons are kept so busy at the Hospital during their take-in that it seriously interferes with their private work. This also strikes us as being a ridiculous suggestion, for how many times during the week does an Assistant Surgeon come to the Hospital especially to operate on a take-in case? And even if this were so, surely that is partly the reason for the existence of the Registrar—although we do hear that in future two Registrars are to be reserved for diagnosis and two for treatment!

Yet another suggestion which has gained credence with some is that so many students have been recently admitted to the Hospital that, unless there are more take-ins, there would be insufficient for each student to participate in at least one. This, we feel, can be dismissed with

contempt, for surely three days can be of little more value than no take-in.

Surely there must be some cogent reason for such a complete reversal of previous custom, and we eagerly await its disclosure. Truly hath it been said, " The old order changeth."

▭

WE should like to draw the attention of our readers to the announcement on another page of the Nurses' Concert.

Those of us who will have been lucky enough to get away for Easter and who find themselves plunged in the depths of depression on their return to work will find in the concert an antidote to that after-Easter feeling. We who have been admitted to the secrets of some of the numbers feel that this is an occasion not to be missed, and would exhort our readers to patronise it in full force.

▭

As can be seen from the Correspondence column on a later page the collection on the day of the Rugger Final amounted to the large sum of £568 14*s.* 2*d.* We should like to offer our congratulations to those concerned on the success of their efforts and the satisfactory reward for all their hard work.

Obituaries

HARRY LEE

GUY'S men all the world over will learn with regret of the death of Harry Lee, which occurred suddenly from angina pectoris in Leeds on January 11th.

Harry Lee came to Guy's from St. John's College, Cambridge, where he left a host of friends to gain many more during a long period of service in his work and games for Guy's.

He played rugger for Cambridge against Oxford and afterwards for Guy's, as well as for England, Kent and Blackheath.

He was House Surgeon to Sir Alfred Fripp and obtained the Fellowship of the Royal College of Surgeons; subsequently he was appointed Ophthalmic Registrar at Guy's and at the West London Hospital.

Shortly before the war he left London to practise ophthalmology in Leeds, where, except for the period of the war, he has worked ever since.

For some years before his untimely death he was Senior Ophthalmic Surgeon to the Leeds General Infirmary, and he held, in addition, a number of public appointments and conducted a very extensive practice. His vast experience, skill and devotion to his work earned for him a very high reputation, which was widespread in the North of England.

Throughout the war he served in the R.A.M.C. at home and abroad, and in the latter stages he was given charge of ophthalmic cases doing outstanding work in the relief of blinded soldiers. His devotion to this duty gained the life-long admiration of the staff with whom he was associated, and his kindness to his patients won every heart, being, as he was, so admirably fitted for a task which called for the exercise of such essential qualities as encouragement, sympathy and human understanding.

As a man Harry Lee was the staunchest of friends, and to him *Dare quam accipere* was something more than a motto; success in terms of money meant nothing so far as he was concerned. His patient and gentle disposition, tinged with that rare gift of humour, endeared him to those in every walk of life with whom he came in contact, and it is no wonder that those who had his confidence felt that his friendship was an honour of which they might well be proud.

To meet him was to like him, to know him to admire him, and to be his friend to love him.

L. B.

By the courtesy of the Editor and Publisher of the " University of Leeds Medical Society Magazine " we are permitted to reprint an appreciation and photograph of Harry Lee.

THE sudden and unexpected death of Harry Lee, on Wednesday, January 11th, is a catastrophe to a very wide circle of friends as well as to the medical profession.

He was born at High Close, Earlsheaton, near Dewsbury, just 50 years ago, educated at Batley Grammar School and Tettenhall College, proceeding to St. John's College, Cambridge. He obtained his B.A. at Cambridge and subsequently from Guy's Hospital, London, was successful in gaining the M.B., B.Ch. Camb. 1910, the L.R.C.P. Lond. and the F.R.C.S. England, 1911.

He came to Leeds shortly before the war and was appointed Honorary Ophthalmic Surgeon to

the Public Dispensary. He served throughout the war in France, partly as a medical officer and later as an ophthalmic specialist. On the retirement of Mr. Secker Walker, he was appointed Honorary Ophthalmic Surgeon to the General Infirmary at Leeds, and Lecturer in Ophthalmology in the Leeds University. He held many honorary appointments in Leeds and district, and for many years was Ophthalmic Referee under the Workmen's Compensation Act. He succeeded to Mr. Secker Walker's private practice, and since the death of Mr. Whitehead his position as the chief ophthalmic specialist in Leeds and district was supreme. His work was characterised by scrupulous care, operative genius and gentlest sympathy.

Harry Lee was a sportsman in the truest sense of the word, a Rugby football enthusiast whose opinion was sought and accepted in the highest quarters—a regular player for his school and his colleges. He gained his "Blue" at Cambridge and his International Cap. He also played for Blackheath and for Kent. Those of us who were privileged to go with him to Twickenham saw him at his best—all cares thrown aside, he became a happy schoolboy glorying in his freedom, revelling in his companions, full of mischief and humour.

At Alwoodley Golf Club he was a familiar and dearly-loved figure, playing a very sound and regular Saturday and Sunday round, finishing the day in the Club House with a game of Bridge. The Leeds Club saw him almost every day at lunch, and it is the simple truth to say he was its most popular member.

He was a keen collector of books, and showed a very fine sense of artistry in etchings and antiques of all kinds.

Harry Lee

His massive frame, fine physique and handsome, kindly face made him a conspicuous figure. His generosity and courtesy to poor and rich alike were proverbial; he had little regard for rank or wealth as such.

The *B.M.J.* said of him: "There was something singularly engaging in Lee's character with its easy combination of kindness, sympathy and courtesy, and no one who knew him will ever forget him."

Another tribute said: "Brought up in the best tradition of his old medical school, he had an almost morbid dread of anything like publicity, and he was no more likely to speak of his professional success than he was to tell you of his 'Cambridge Blue.' The professional was never allowed to obscure the human side of his character. A keen sense of humour and a wide knowledge of men and things made him a delightful companion, not only for his friends but for his family and especially his two boys, to whom he was devoted."

No man on the Infirmary Staff was so beloved by his colleagues, by the nursing staff and by students; no man carried with him in council such simplicity, transparent honesty of purpose and radiant affection. In his presence surnames became Christian names, and mutual good fellowship must prevail.

Those of us who lived in very close and daily relationship with him have his memory bound closely to our hearts and cherish every recollection of him—none of us can ever forget those merry twinkling eyes and that glorious splendid figure—no more can we fail to think of his almost childish happiness in life, his unbounded generosity of hand and heart. He was, indeed, a very perfect pattern of Nature's finest gentleman, and will remain a most precious and very fragrant memory.

"Gentle of speech, beneficent of mind,
Mirror of constant faith, rever'd and mourn'd."

L. R. B.

IT has been my privilege to know Harry Lee over a long period of years. He came from Cambridge to Guy's when I was a student there, and very soon there arose the cordial terms of friendship which have continued without break up to the time of his tragic death.

Modest and unassuming though he always was, his aptitude in work and play alike soon made him a familiar figure in the life of the hospital. His personal, shy charm of manner, his subtle sense of humour, his quizzical smile were characteristics which endeared him to all. Always he "forebore his own advantage," and who can doubt that he was the gainer thereby?

He did much for the glory of Guy's in the Rugby football field during a period of brilliant success for the hospital. He was a tower of strength at full-back, and one always felt that his side was safe when he got the ball.

Football and cricket were beginning to give way to golf when I left him a senior resident at Guy's. Within a few years he followed me to Leeds, but in August, 1914, he was in khaki and in France did valuable work, first in a field ambulance and later as an ophthalmic specialist. Since his return he has made for himself a place in our hearts and lives which can never be filled.

S. W. D.

DR. GEORGE HAMILTON

DR. GEORGE HAMILTON, who died recently at Bexhill-on-Sea, was born in April, 1881, the son of the Rev. Benjamin Hamilton, Vicar of Fewcott, Oxon. He entered Guy's Hospital Medical School with a scholarship from the Haberdashers' Company, and was the winner of the second entrance scholarship. He obtained the diplomas of the English Conjoint Board in 1905, and graduated M.B., B.S. (Lond.) in 1907. He served as clinical assistant in the wards, out-patient officer and house physician at Guy's Hospital in 1906; in the following year he was appointed surgical registrar, which post he retained until October, 1908, when he settled in practice at Bosham.

In September, 1914, he joined the medical service of the Royal Navy and served as a battalion medical officer in Antwerp and had a very responsible charge in the retreat from that city. On transference to the First (R.N.) Field Ambulance he was in charge of B Tent Operating Section during the Gallipoli campaign and was mentioned in dispatches. After undergoing an emergency operation for appendicitis he was appointed in September, 1916, to the staff of the Royal Naval Hospital at Haslar, where he remained until October, 1918, when he joined the *Lord Clive* and saw active service at Dover, Dunkerque and Yarmouth, being invalided out of the Service in January, 1919.

In the following April he joined Dr. David Ewart, of Chichester, as partner, and was appointed assistant surgeon and subsequently surgeon and honorary consulting surgeon to the Royal West Sussex Hospital. In consequence of ill-health he took a voyage in 1928 to South Africa, and had to relinquish practice in 1930.

Abdominal Pain

An Address to the Physical Society by E. G. Pantin, Esq.

MR. CHAIRMAN and GENTLEMEN,—Mr. Harley's clear account of the development of our ideas of referred pain is also a grave indictment of many of our cherished beliefs about abdominal pain, but the damage he has done to our theories has everywhere left a firm foundation of fact upon which a working hypothesis may well be built.

The attention which he drew to the fact that pain and all other sensation is felt in the brain alone, and only referred to the correct locality of stimulation by that organ, is evident to us every time a patient who has had his leg amputated a few days before says to us: "Yes, my stump is all right, doctor, but it is my corns that are still worrying me!" It is brought home to us more vividly, perhaps, when a sufferer from migraine tells us that the onset of the cortical disturbance to which his headache is due is heralded by a tingling referred to the hand or some other part.

Thus, as Head[1] has put it, the "localisation of sensation is not a physical, but a psychical phenomenon. It is not a question of the number of rods and cones or of the number of nerve-end organs, but is a phenomenon of association." To see that this association is not perfect at birth we have but to look at a new-born child, with its eyes roaming aimlessly about and unable to do more than fix on a light. Each cross-eyed Borough child is a beautifully controlled experiment showing the importance of use and experience in developing this power of association in the brain. If we test the eye with which it looked at us it can read even the smallest letters on the test type, but if we cover up that master eye, so inexperienced is the cortex subserving the unused eye that the child blunders about and trips over the waste-paper basket.

Thus our most accurate powers of localisation of sensation are only developed by experience in the correlation of all sensations—visual, tactile, temperature, etc., and so, when painful stimuli arise within the dark cavern of the abdomen, an abdomen from which sensations have rarely entered consciousness and into which the owner's eyes cannot peer, there is *a priori* no likelihood of the pain being referred accurately to the site of stimulation.

In the investigation of abdominal pain, therefore, the question that we must ask ourselves is not, Is the pain referred? but—What structures within the abdomen are sensitive? What is the adequate stimulus? and where does the brain refer the pain?

TYPES OF PAIN DUE TO STIMULI ACTING WITHIN THE ABDOMEN

Lennander,[2] having operated frequently under local anæsthesia with $\frac{1}{6}$ gr. of morphia, tells us that "the parietal peritoneum is extremely sensitive to all operative manipulation. The intestinal tract, on the other hand—the mesenteries, the stomach, the anterior border of the liver and gall-bladder, the great omentum, the serous covering of the bladder, as well as the parenchyma of the kidney—are wholly insensitive to operation even with the thermocautery." The viscera retained their insensibility even when diseased and inflamed.

Morley[5] confirmed this, and when he had shown, as Hurst[4] also demonstrated, that the area of tenderness found on the anterior abdominal wall in cases of duodenal and gastric ulcer, appendicitis and cholecystitis coincided with the position of the inflamed organ as seen by X-ray, and moved with it, he concluded that the source of the tenderness was the stimulation of the parietal peritoneum by the inflamed surface. In several of these actual cases he was able to demonstrate at operation under local anæsthesia to his own and his patient's satisfaction that the ulcer was totally insensitive to direct insults.

In many of Morley's cases of peptic ulcer perforation some of the escaped stomach contents had found its way under the diaphragm, and these cases complained of pain in the shoulder on the affected side. Infiltration of the painful shoulder-tip area with novocaine at once relieved the pain, and, when the operator using local anæsthesia of the abdominal wall shortly after, came to swab out under the diaphragm on the affected side, no pain resulted. The passage of a swab under the diaphragm on the other side at once caused the patient to cry out that he had a pain in his shoulder.

This led Morley to modify his view: stimulation of the parietal peritoneum causes pain and tenderness to be felt in the skin and muscles supplied by the corresponding cutaneous and muscular branches of the nerves stimulated. Since it is only in the case of the diaphragm that the corresponding cutaneous and peritoneal areas have got widely separated, it is less easy to show this reference of the pain in the case of the anterior abdominal wall. This is of great help to us, however, for, though we may find we can elicit tenderness from the anterior abdominal wall with a touch so light that it could not possibly affect the parietal peritoneum, we do know that it is

under that area of cutaneous or muscular tenderness and rigidity that the trouble lies.

PARIETAL PERITONEAL OR SOMATIC PAIN

Thus we may differentiate a type of pain, which may be called somatic, caused by stimulation of the parietal peritoneum by inflamed surfaces, escaped gut contents and even extravasated blood, which is felt in the tissue overlying the area stimulated. The pain is sharp and stabbing in its most severe form, but grades down to a simple tenderness of the skin or, more commonly, the muscle, which is always associated with rigidity of the muscle.

VISCERAL PAIN

Following the work of Lennander and MacKenzie it was believed that the viscera were wholly insensitive. In 1911, Hurst[3] pointed out that, in order to get a sensation from an organ, the adequate stimulus must be applied, and then proceeded to demonstrate that for the whole of the alimentary tract the adequate stimulus was distension of the lumen, with consequent increase in the tension of the walls. Since the gut is developmentally a mid-line organ, and in health gives its owner no chance of learning how it is disposed, the pain is felt in the mid-line. This mid-line reference is also found with the unilateral diverticula of the gut, such as the biliary passages. Thus, the pain of biliary colic begins in the epigastrium, a site where pain from colic of the ureter, developmentally a lateral organ, is never felt.

A visceral type of pain does then occur, caused by an increase in the tension in the muscular walls of hollow viscera. The brain refers the pain rather vaguely. In the case of the alimentary canal the pain is diffused about the mid-line of the abdomen, and at various levels according to what part of the gut is stimulated. Thus gastric pain occurs in the epigastrium, while distension of the small gut and appendix causes pain felt round the umbilicus, and of the large gut pain in the hypogastrium.

The pain is of a dull, aching character or colicky, if it is associated with violent peristalsis. While it is present the patient tends to move about or press on the abdomen, in marked contrast with the patient with peritoneal irritation, who lies as still as possible.

VISCERAL DISTURBANCES CAUSING TENDERNESS IN THE SKIN

We have seen that the stress Morley lays on the parietal peritoneum as a source of pain is justified, but Morley goes further than this. He denies that visceral disturbance alone can be a cause of tenderness in the skin, and states that the "referred pain" of MacKenzie[6,7] and Head[8] is simply his (Morley's) parietal peritoneal radiation.

That MacKenzie, for whom any pain not localised with the extreme of accuracy was referred, had confused these two types of pain is probable, but that Head[1] was aware of the existence of parietal peritoneal pain, though he did not give it its full importance, is shown by the following quotation: "Now I was struck long ago by the fact that in affections of the peritoneum the pain and tenderness differed fundamentally from that of referred pain, in that, although the pain is well localised, it does not follow the line of the nerve areas." Moreover, Head maintains this differentiation throughout his paper, and it appears that he was dealing with a phenomenon distinct from what has been called somatic pain.

The tenderness which Head described was strictly cutaneous, and the subjective sensation that the patient experienced from the part was that he was "sore and bruised as if he had been beaten." The touch of a blanket over the part might be unbearable, but sustained pressure often soothed. Over these hyperalgesic areas the cutaneous reflexes are exaggerated.

Of two further pieces of evidence I wish to adduce in favour of the existence of Head's referred visceral pain, one was furnished by Payne and Poulton[8] during their experiments on the œsophagus. They found that if they prolonged for long the pain due to stretching of the œsophagus cutaneous hyperæsthesia was liable to develop over the sternum and remain there for some hours.

The second suggestive piece of evidence is afforded by this appendix (*a*) and its erstwhile owner. The opening of the appendix is, as you see, obstructed by an annular carcinoid, while the lumen is dilated and the muscular wall hypertrophied. I expected to find on referring to the report that its owner had suffered from repeated attacks of colicky pain about the umbilicus, before he agreed to yield up this specimen to Mr. Steward.

The actual history was that for a year prior to admission the patient had suffered from fortnightly attacks of a gnawing pain in the stomach, each lasting continuously for some days.

Three days before operation his usual pain had started, but at 4.30 p.m. two days later he began to feel sharp pains in the region of the umbilicus, so severe that he fainted.

On examination the abdomen was described as boardlike and very tender. Temperature, 97.4°; pulse, 88.

At operation the appendix behind the obstruction was distended with mucopus. There were numerous adhesions around the appendix and the cæcum was indurated, but the clerk makes no

note of peritonitis, and since there is also no mention of the insertion of tubes and the patient was discharged 14 days after operation, there probably was none.

Thus there was nothing in Morley's theory to account for the tenderness and rigidity of the abdomen.

This was then possibly referred visceral tenderness, and the case affords some clue to the adequate stimulus necessary for its production. Head[1] noticed that the most marked visceral tenderness occurred after parturition, and notably on one occasion he produced most widespread tenderness by the use of distending enema, inducing violent peristalsis and colicky pain. Payne and Poulton found that hyperæsthesia developed after prolonged and severe visceral pain, and in this case a similar state of affairs had existed. It may, therefore, not seem too presumptive to hazard the guess that an adequate stimulus for the production of hyperæsthesia of the skin is prolonged and severe visceral pain.

The tenderness will presumably begin first in Head's maximum areas, and the fact that only one of these, situated near MacBurney's point, lies on the surface of the abdomen may explain why he found muscular rigidity so rarely with the referred tenderness.

Thus to our somatic and visceral pains we may add a third painful phenomenon simulating the former in its manifestations, but the latter in its ætiology. It is probably rarely found in the abdomen save following the major colics, and so in the discussion of dyspepsia and appendicitis which is to follow, only our visceral and somatic types of pain need be considered.

THE STOMACH

The pain most commonly associated with gastric upset is of the visceral type; such are the dull aching or gnawing pains of gastric and duodenal ulcer. However, since it is this condition of peptic ulceration which has attracted of late so much attention to the stomach, we do find several theories of gastric pain based on the assumption that the ulcer itself is sensitive. One such theory, championed by Moynihan in his early papers, ascribes the pain to irritation of the ulcer by the acid chyme, which is delayed from entering the duodenum by spasm of the pylorus till the end of the latent period.

More lately, Kinsella,[10] in Australia, has put forward congestion around the ulcer and consequent compression of nerve elements in the rigid base as the cause of the pain. He assumes that, as the stomach contracts down during the digestion of the meal, it squeezes the blood from its wall into the ulcer base. Thus the onset of the pain is delayed till late in digestion, when enough blood has been pushed into the ulcerated area to raise the pressure to the liminal degree.

Had peptic ulceration been the only condition with which we had to deal, these theories might have been stretched to embrace all the facts, but, from the moment we realise that pain similar in every respect to that present with peptic ulceration occurs in dyspeptic conditions without any visible organic change, these theories prove hopelessly inadequate. To quote Hurst:[11] "I had the good fortune to see the only patient upon whom Mr. Moynihan has operated during a first attack. He had been ill for nine months, and had had most typical hunger pain after almost every meal during all that time, but at operation no sign of duodenal ulcer was found."

Dyspepsia associated with peptic ulceration thus falls into line with the toxic and reflex dyspepsias. The type of pain is characteristic, though it is usually divided into two divisions: immediate and delayed. The delayed type was first described as typical of duodenal ulcer.

DELAYED GASTRIC PAIN

The pains occur in attacks of a fortnight or more and then disappear for an indefinite period. The pain is gnawing or aching in character and felt in the midline of the epigastrium. It is never present before breakfast, and usually begins from two to three hours after the large meals of the day, and earlier after small meals, such as tea. The pain is always relieved by more food or drink and by alkalies. Emptying the stomach by tube or vomiting always relieves.

A typical case was operated upon by Mr. Fagge last year. A man, aged 42, had suffered from attacks of pain for 13 years. The pain used to come for three to four weeks and then go. The pain was of a dull, aching character, and diffused through a wide area in the epigastrium. The daily routine was:—

7.30 a.m., no pain.
8.15 a.m., breakfast.
10.30 a.m., pain.

Coffee at 11 a.m. gave him relief for half an hour. At 1.30 p.m. he had lunch, thereby relieving the pain, which did not return till 4 p.m. Dinner at 7 p.m. gave him relief for three hours.

At 10.15 p.m. he had a small meal and went to bed. He was awakened at midnight by his pain, and, till he fell asleep with exhaustion at 7 a.m., he was repeatedly taking small meals, which gave him about half an hour's relief.

At operation an ulcer was found on the anterior wall of the duodenum.

The *immediate type* of pain is similar in nearly all respects, save that the pain begins earlier,

half to one hour after a meal, and is not relieved so easily by food and drink. The pain also tends to stop spontaneously before the next meal.

Thus the main characters of both these types of pain are :—

1. Their steady nature.

2. The latent period which occurs before their onset after a meal.

3. The relief which is gained by more food and drink, by alkalies, and by completely emptying the stomach.

Not only must any acceptable theory explain all these facts, but it must also tell us why the latent periods of the two types of pain differ.

Since the pain can occur without apparent structural change being present in the stomach, we must look for aberration of function as the cause. The stomach has both a secretory and a motor function. Hyperacidity used to be a frequent diagnosis in these cases, but, since routine test meals came in, it has been shown that marked hyperacidity may be present in people who have never had any pain, and the acid in the stomach may reach as high, or even a higher, value when a duodenal ulcer patient is in a period of remission as when he is in pain.

Thus upset in acid secretion, at least alone, cannot be the cause of the pain, and from negative evidence it appears that upset of the motor functions must lie primarily at the root.

Bolton[12] sums up the functions of the stomach as being those " of receiving the swallowed food moderately quickly and of delivering it gradually to the intestine." The walls of the stomach give way before the incoming food, so that the intragastric pressure, as Hurst[4] has shown, always remains constant at about 4-6 mm. of Hg., and, in like manner, by means of the postural activity of the muscle, the walls contract up as the food passes out. Peristalsis begins and stomach contents begin to pass into the duodenum almost as the meal enters the stomach, and continue to do so till the stomach is empty, some four or five hours later in the case of a large meal.

We might expect some change in motor activity in the stomachs of those suffering from pain. Many have tried to show some increase in intragastric pressure during pain, but no one has got significant results. However, emptying the stomach or vomiting relieves the pain.

In 1909, Hurst[11] found on X-ray examination that there was no delay in emptying of the stomach in cases of duodenal ulcer, food beginning to leave as soon as it entered. Pain came on when the stomach was three-quarters empty, and its spontaneous disappearance an hour later seemed to correspond to the moment when the stomach is empty.

Wilson[13] found that the presence or absence of gastric peristalsis bore no relation to the occurrence of pain in ulcer, but he also saw that, while the pain lasted, no barium entered the duodenum, and if he squeezed some barium through the pylorus with his hand the pain was at once relieved, though the acid chyme was now in contact with the ulcer in the duodenum.

Meunier[14] also noticed that when a duodenal ulcer case was in pain none of the meal passed into the duodenum, and if he gave the patient a glass of milk nothing would happen for a minute; the patient would then belch, the duodenum be seen to fill and the pain go.

Again, Kinsella[10] found the same failure of the meal to get through the pylorus in painful moments, and the same relief of pain when the pylorus relaxed after swallowing a teaspoonful of sodium bicarbonate in 15 c.c. of water. There was no change in gastric peristalsis, however, save that a wave, which before would have been impotent, now drove some meal into the duodenum.

In the delayed type of gastric pain it appears that we have positive evidence of the upset of the normal emptying mechanism of the stomach, so that we can conclude that behind this closed pylorus the tension in the wall of the stomach rises sufficiently to produce pain, if not to produce significant changes in our gross instruments.

What is the mechanism in immediate pain? Bolton[12] believes that here the receiving mechanism of the stomach is at fault and, therefore, does not give way sufficiently as the food comes in. In that case, however, the pain would occur as food is taken, not 15 to 30 minutes later, as it does.

Most of the experimental work has been done on the delayed type of pain, and till evidence is produced to the contrary it may be reasonable to make use of William of Occam's razor, and limit our hypotheses of the manner of production of these two so similar types of pain to the one above based on achalasia of the pylorus.

This leaves the differing latent period still to be explained. Possibly it is due to differences in the irritability of the pylorus, but Hurst suggests that just as the steerhorn, rapidly emptying stomach predisposes to the development of a duodenal ulcer, so the visceral pain associated with it is of the delayed type. To quote :[15] " In an individual with the hyperæsthenic gastric diathesis, the nervous . . . the reflex . . . and the toxic dyspepsias all tend to simulate the clinical picture of duodenal ulcer." The immediate type of pain is associated with a long or normal stomach.

At this point the true value of this type of visceral pain becomes apparent. An attack of delayed pain does not inform us that the patient has a duodenal ulcer, nor does an attack of immediate

pain give warning of a gastric ulcer. What we do learn from it is, in the first case, that the gastric function is deranged in a person with a steerhorn stomach, who is liable to develop duodenal ulcer, and, in the second case, that it is a person with a normal or long stomach who is suffering from dyspepsia.

To ascertain whether structural damage in the form of an ulcer is also present help can be obtained from X-rays and by testing the fæces for occult blood. But if in our clinical examination we find a localised area of muscular tenderness and rigidity which shifts as we cause the stomach to change its position relative to the abdominal wall by turning the patient over, or the patient tells us that lately the pain has gone through to the back and is not relieved by alkalies, there is an ulcer present despite numbers of negative X-rays. These somatic phenomena do not occur unless there is an ulcer, whose inflamed peritoneal surface may irritate the parietal peritoneum, or which may bore into the pancreas behind. Thus Ryle[6] states: "In stomach-ache due to extragastric causes I have not found cutaneous soreness or muscular guarding."

Perhaps the more gross gastric disturbances, pyloric obstruction with its grinding visceral pain, ulcer perforation with its sharp agonising somatic pain and rigidity, bring out the relation between visceral pain and upset of function, and somatic pain and an inflammatory lesion more clearly.

THE APPENDIX

When we turn to the appendix, whose sole function seems to be that of emptying itself, this relation still holds.

Aschoff has recently published a monograph on the pathology of appendicitis. He finds that the appendix has a bacterial flora of its own, gram positive micrococci and rods. If he gets his inflamed appendices early enough he invariably finds one or other of these organisms in the wall of the appendix, both without and within the phagocytes. As they are usually in pure culture, he concludes that they cause the first invasive lesion. These bacteria are very liable to be overgrown by the colon bacilli, and as long as the appendix is filling with fæcal contents and emptying normally they are very hard to find, but in the mucus which collects in an appendix which does not empty itself they thrive exceedingly. Thus is confirmed the belief long held that obstruction of the appendix is the primary factor in the causation of appendicitis.

The natural history of an attack of appendicitis may be outlined as follows: First a fæcolith becomes impacted, or a kink occurs, or, possibly more frequently, a catarrhal inflammation of the walls and consequent œdema blocks the lumen. Mucus collects behind and the appendix contracts down vigorously in an endeavour to empty itself. The tension in its walls rises and thus visceral pain is produced, which is felt by the patient as a dull ache or sometimes as an actual colic in the region of the umbilicus.

In the meanwhile the flora of the appendix has increased and invaded the mucosa. Toxins and bacteria are carried by the lymphatics to the serosal coat, which becomes inflamed and roughened and irritates the parietal peritoneum in the right iliac fossa. The patient feels a sharp pain around MacBurney's point and, on examination, he is found to be rigid and tender in that area.

The muscular coat of the appendix then gives out and pain around the umbilicus ceases. Clinically, the pain has shifted. Later, if perforation occurs and the appendix has not been hemmed off by the omentum, the pain of general peritonitis begins, and the whole of the anterior abdominal wall becomes tender and boardlike.

This is the typical history of the pain in appendicitis; variations, of course, occur, but all are explicable on the condition of the parts found at operation: the stasis is due, perhaps, to the length of the appendix, and the lumen being open no umbilical pain is felt; tenderness is found elsewhere, perhaps, on rectal examination, but the appendix will be found in the pelvis[18]; perhaps little or no tenderness is found at all, then the appendix will be found wrapt in omentum, as in this specimen (*b*), and so kept from contact with the parietal peritoneum.

Several cases illustrating the close relation between the lesions found at operation and the history of the pain before were admitted during a Turner take-in last year. All entered Guy's as possible cases of appendicitis.

The first patient (*c*) was a diamond setter of 24 years. He gave a history of an attack similar to the one which brought him to Guy's occurring a month previously. Two days before admission he had a central abdominal pain, to which was added the next day a pain in the right iliac fossa. He vomited, but his bowels opened normally.

O.E., T. 101°; P. 112. He had generalised abdominal pain, and the observation that abdominal respiration was constrained was confirmed on palpation when the whole anterior abdominal wall was found to be very rigid and tender. (R.E., tender right, no mention of fæces.) At operation a perforated and inflamed appendix and general peritonitis were found.

Here we have the complete picture of a typical severe attack of appendicitis: the central abdominal pain, the localised parietal peritoneal pain, and the general abdominal pain of peritonitis.

Three (*b*) days previously there was admitted a floor cleaner of 42 years. He had been constipated, and two days before admission he took a dose of salts with excellent results, but at 10.30 that night he was stricken with a sudden, severe and generalised abdominal pain and had to curl up in bed in an attempt to ease it. He also stated that he had a pain "like knives in his back passage." He did not vomit.

O.E., the generalised abdominal pain was still present and there was general rigidity of the abdominal muscles. T. 98°; P. 84. R.E., fæces. At operation general peritonitis was found, due to the perforation of the pelvic colon by a fish bone. The appendix was healthy and not removed.

In retrospect it seems clear that the sudden generalised abdominal pain occurred at the moment when the fish bone, spurred on by the salts, perforated the colon, liberating some gut contents, which were rapidly disseminated throughout the peritoneal cavity and set up a generalised parietal peritoneal irritation. "Knives in the back passage" were due to scratching of the posterior parietal peritoneum by the fish bone.

A girl of 20 years (*e*) came in on account of the sudden exacerbation of a pain in the R.I.F., which she had had on and off for a month. She had not vomited. Her next period was due. O.E., T. 98°; P. 100. The lower half of the abdomen was tender, this being more marked on the right than on the left. (R.E., tender both sides, fæces.)

There was here no umbilical pain, and only evidence of parietal peritoneal irritation most marked in the R.I.F.

At operation the appendix was healthy, though it contained several fæcoliths, but there was a blood cyst in the right ovary the size of a tangerine.

The fourth patient, (*f*) a lorry driver, had suffered for 48 hours with a raw pain in the abdomen. It had at first been generalised, but had later tended to be more severe in the right hypochondrium, where, on examination, there was slight tenderness and guarding. (R.E., fæces ++; no vomiting.)

The generalised pain might have been diffused umbilical pain and that in the right hypochondrium due to a misplaced appendix. The generalised pain was, however, raw—a sign more characteristic of peritoneal than of visceral pain, which is usually a dull aching or colicky.

At operation a lump was felt in the right hypochondrium, which proved to be a volvulus of the greater omentum, the veins of which were thrombosed. As well, there was generalised reddening of the guts and free fluid.

EPILOGUE

I have endeavoured to set before you and support a view of abdominal pain based on two separate types of pain, a visceral and a somatic. There is a third type which partakes of the characters of both, and but little concerns us in the abdomen.

My statements may have appeared too positive in places, but if they are so it is only in order to present a theory free from all hedging. To be clear-cut is the first duty of any theory, for its value can only be assessed if fresh facts can be predicted from it, and if this can be done correctly no one considers the inherent truth of the theory. Thus every theory of abdominal pain must stand or fall by its ability to aid us in diagnosis. So I will now leave what is, in effect, Mr. Morley's views on abdominal pain to your criticism.

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The Masticatory Face

A Paper read before the Dental Society, Guy's Hospital, by B. G. F. Turner, Esq.

MR. CHAIRMAN and GENTLEMEN,—In his contribution to the Dental Board publication,[1] "The Growth of the Jaws, Normal and Abnormal, in Health and Disease," Sir Arthur Keith uses the term "the masticatory face" to describe that part of the face overlying the maxilla and mandible.

In describing a few cases taken from the Guy's Hospital Children's Dental Department, I will emphasise particularly the state of jaw development, and the relationship of the lips and cheeks to the jaws from an æsthetic and functional standpoint.

In mentioning some of the methods we may adopt in improving unfavourable conditions, I shall lay stress on the importance of attending to the more obvious points of general health in the development and growth of the child.

Most of the cases shown are still under orthodontic treatment; they are chosen, regardless of the degree of success obtained, to illustrate certain basic principles of treatment.

A brief six months spent in the Children's Department is insufficient to see any but the simplest case carried from start to termination of treatment, and it is entirely through the generosity and help of our Dean, Mr. Boquet Bull, and of our Registrars, Mr. Rix and Mr. Cutler, that I am able to show these cases at all.

With two exceptions, each case presented is that of a child who has been bottle-fed from birth. As long as bottle-feeding persists to the extent it does to-day there will be ample work for the orthodontist.

An eminent provincial dental surgeon with whom I was discussing the subject of this paper said to me, "Stress breast-feeding as *the* most important factor in normal arch development."

That part of Africa where I spent my earliest years provides many an opportunity to study the baby feeding in the way which Nature intended every baby should feed. Its face upturned and its jaws upstretched, it does not merely suck—it literally bites with its gum pads. This is true to such an extent that, when the lower incisor tips appear through the gum, the bite is often so painful to the mother that she has to discontinue breast-feeding.

The contrast is very obvious between this vigorous method of working for its living for Nature's food and the sucking mouth at the soft nipple of a bottle filled with synthetic food.

CASE 1.—D. R., a boy, aged 12 years 5 months; bottle-fed; has suffered from septic throat.

D. R. appeared on Mr. Bull's clinic 18 months ago, then aged 10 years 10 months, with the smallest jaws I have ever seen in a child of this age. All his deciduous molars appear to have been lost early owing to caries, and his lower left six-year molar is missing. His two upper central incisor teeth were edge to edge with the lower incisors. His maxillary tooth-bearing surface at the age of 11 years is smaller than is normal at the age of four years, before the deciduous incisor spacing has commenced. He has been treated by pegging out the two upper central incisor teeth, and he has worn numerous upper Badcock expansion plates. His lower right six-year molar was extracted six months ago because it was abscessed. His bite is being supported by a lingual bar lower appliance with posterior bite blocks, and clasps to the two canine teeth. In his photograph, the profile view shows the slight degree of development of both his jaws. The body of the mandible is short from front to back, and the ascending ramus comparatively long. The muscles acting on such a jaw are, of necessity, slight. Following early loss of the deciduous teeth, the tight lips and cheeks have played their part in contracting the jaws. Various people, on seeing his photograph, have remarked, "What a beautiful profile!" When we remember that the boy is only 12 years of age, that mental prominence seems to promise an early appearance of senility.

This child is such an obvious case of arrested development in the bone of the jaws—particularly the tooth-bearing surfaces of the jaws—that I feel he is a suitable case for discussion of some of the methods which are available for stimulation of bone growth in the jaws. In his case you may feel that I am attempting to "lock the stable door after the horse has been stolen"—that nothing we do now will materially improve his underdeveloped antrum and maxilla and mandible. If this is true, it only serves as additional emphasis on the necessity for early application of the common-sense methods of treating local maldevelopment by general methods.

Assuming Professor Brash's[2] conclusion—that bone growth takes place only on the external and sutural surfaces of bones and that no interstitial growth takes place—any growth stimulation we may produce does not directly influence the eruption processes of the retarded lower premolars.

But, quite apart from immediate eruption of teeth, it is essential here to develop the tooth-bearing surface of the mandible. Here are some of the factors favourable to bone growth, which might be used in similar cases to this one.

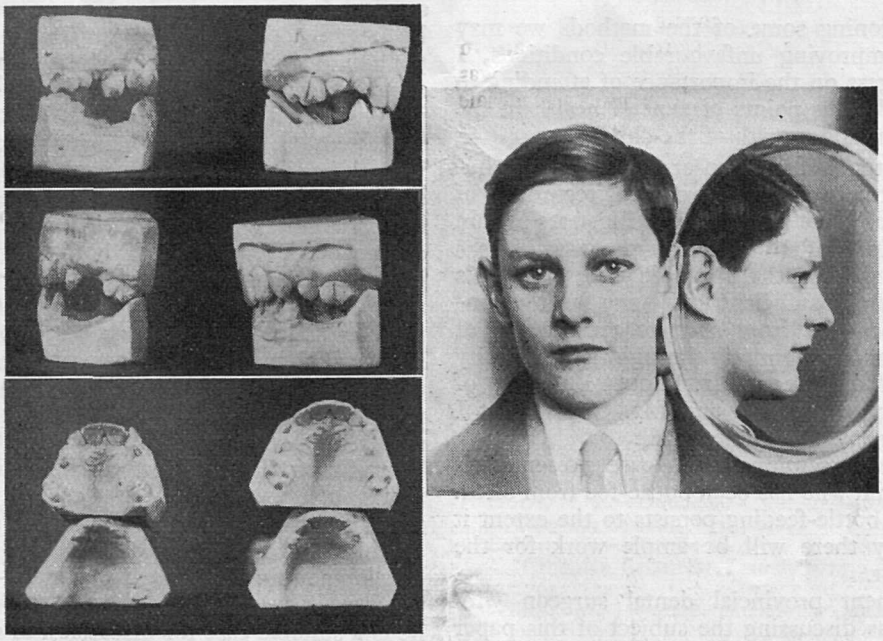
It would be foolish to discount the influence heredity plays in the production of most of the irregularities with which the orthodontist has to deal.[3] Unfortunately, it is quite outside our province to influence the genetic factor; we can only treat the condition produced, and these methods are mentioned with the suggestion that, if applied early enough, they will sometimes eliminate the need for apparatus, and, if applied during treatment, they will aid retention and minimise the tendency to relapse.

3. *Diet.*—The boy in Fig. 1 is a boarder at a choir school. At such an institution and in many boarding schools in this country all milk supplies are boiled for the prevention of tuberculosis, the greens are all too frequently allowed to boil for long periods, and fresh fruit supplies depend largely on the purchases which the enterprising child may make.

So in his case we would be justified in prescribing cod liver oil to supply his suspected vitamin D lack. Should cod liver oil be unpalatable, radiostoleum, the proprietary preparation of irradiated ergosterol containing vitamin A as well as vitamin D, might well be used.

In some cases of arrested bone growth, in addition to vitamin administration it might seem advisable to "push" the easily assimilable calcium content of the diet. This might be done by using calcium gluconate activated by radiostoleum—the method of calcium administration used for the treatment of rickety children in this hospital—or by the use of Ostelin[6]; this contains vitamin and calcium together, and consists of calcium glycerophosphate with concentrated vitamin D content of cod liver oil to activate it.

Whenever the child is living at home we can pursue our ardour for "preventive orthodontics" by insisting on an opposite regime of natural supply of vitamins.[7]



Case 1.

1. *Muscle Exercises.*[4]—By exercising and developing masticatory muscles, a flow of healthy blood is stimulated with the production of vigorous tissues in apposition to the jaw, with production of an optimum environment for the developing bone.

2. *Function.*—If the child is encouraged to eat hard and tough food—even with a lower biting plate—this will be a factor favouring jaw growth.[5] The regular use of hard rolls and long French loaves with a large area of crisp baked crust may well be encouraged for all our young patients.

4. Perhaps the most important factor in such a case as this is that the boy should get sunshine to a maximum.[8] Mr. Talbot has great faith in ultra-violet treatment as a stimulant to bone growth,[9] and even suggests that therapeutic measures, taken early enough, may lessen the frequency of the occurrence of impacted wisdom teeth, which are due to lack of late growth in the body of the mandible.

Sir Norman Bennett[10] states that, in his opinion, 'the time will come when it will be accepted that the jaws of civilised man are no longer capable in many cases of holding the full complement of teeth, and that the extraction of the first four premolars before or after eruption will be a common operation."

(Mr. Turner then showed on the screen examples from modern painting and sculpture to illustrate this tendency towards jaws small in relation to the rest of the head—this, he said, was particularly characteristic of our ideal of female beauty to-day.)

CASE 2.—S. S., a girl, age 12 years.

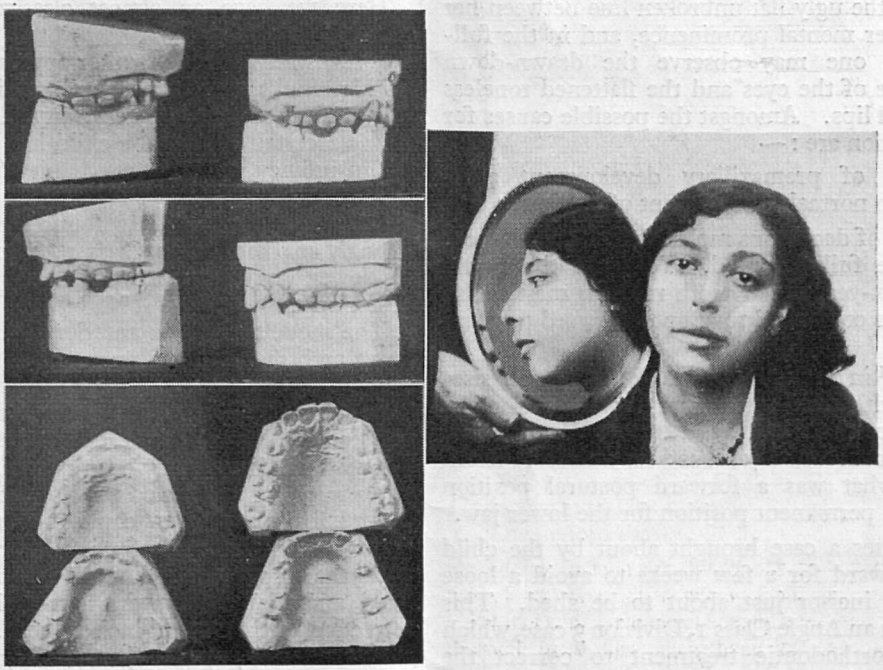
As a contrast to the first case shown, this girl has, for her age, the largest maxilla I have yet seen.

When she presented at the hospital four years ago, this girl had a large upper jaw, with diastemas present between all her upper teeth, accompanied by a smaller lower jaw. This discrepancy in size of the two jaws gave her a close bite anteriorly.

Her models as she is to-day show that the disharmony between the jaws has not been entirely corrected. You see that her maxilla is continuing to spread outwards, and the newly erupting upper 12-year molar teeth show an abnormal divergence buccally.

Her dark hair, deep brown eyes, characteristic nose, and full lips all betray her racial origin. To us, the important point is that her lips and cheeks are loose and bulky; they have scarcely any constraining influence on the outward growth of her jaws.

Looking at her profile, the body of her mandible is long antero-posteriorly, with a short, broad ramus and the coronoid process set well forward. All these factors contribute towards masticatory efficiency. From the ample dimensions of the lower jaw it would appear that in a case of this type we need not resort to space retainers in the event of early loss of deciduous teeth—in contrast to the first case shown, where space retainers are well-nigh essential.



Case 2.

CASE 3.—M. J., a girl, aged eight years, breast fed.

This girl has only just commenced having treatment. She suffers from one of the most distressing conditions which the orthodontist meets—that in which the lower incisors are locked outside the upper incisors. In her profile may be traced the ugly flat unbroken line between her eye and her mental prominence, and in the full-face view one may observe the drawn-down appearance of the eyes and the flattened toneless cheeks and lips. Amongst the possible causes for this condition are : —

Case 3

1. Lack of premaxillary development associated with normal development of the lower jaw.

2. Loss of deciduous molars before the six-year molars are fully erupted. To make the partly erupted six-year molar teeth meet in mastication the child is compelled to adopt a forward postural position.

Visick,[11] in discussing this condition, emphasises the ease with which a slinging forward of the jaw occurs, accompanied by a remoulding of the temporo-mandibular joint and the mandible itself, so that what was a forward postural position becomes a permanent position for the lower jaw.

He quotes a case brought about by the child biting forward for a few weeks to avoid a loose deciduous incisor just about to be shed. This resulted in an Angle Class 1, Division 3 case, which required orthodontic treatment to correct the condition. As the child is only eight years old, and the overbite is considerable, the prognosis is good. She is now wearing a cast silver lower inclined plane cemented over her four lower incisor teeth; this gags her bite, and has the effect of training the upper incisor teeth forward over the lower incisors.

CASE 4.—A. W., a boy, aged 7 years 9 months.

Here we have an almost classical "thumb-sucker."

A few weeks ago his mother appeared with him on Mr. Bull's clinic to have something done for this rather outrageous deformity. On inquiry, it was ascertained that the child had been bottle-fed in infancy, and that the habit of sucking his thumb persisted late.

On examination, it was found that he was a strongly marked Angle Class 2, Division 1 case, his lower jaw being exceptionally short antero-posteriorly.

The models show an anterior flattening of the lower arch due to thumb pressure. His partially erupted upper central incisor teeth show slight labio-clination. He has a low frenum attachment between the upper central incisor teeth.

Treatment has already been started. A frænectomy was first performed to allow the two upper central incisor teeth to come together. Anchor bands were made for the four six-year molar teeth.

In the upper jaw a lingual expansion bow is fixed, and a labial bow with take-up loops for the retraction of the central incisor teeth.

In the lower jaw an adjustable lingual bow was made, for pushing the lower incisors into a normal arch form.

Intermaxillary elastics between the lower six-year molar anchor bands and the upper labial arch in the canine region will bring the tooth-bearing surface of the lower jaw into a new forward position.

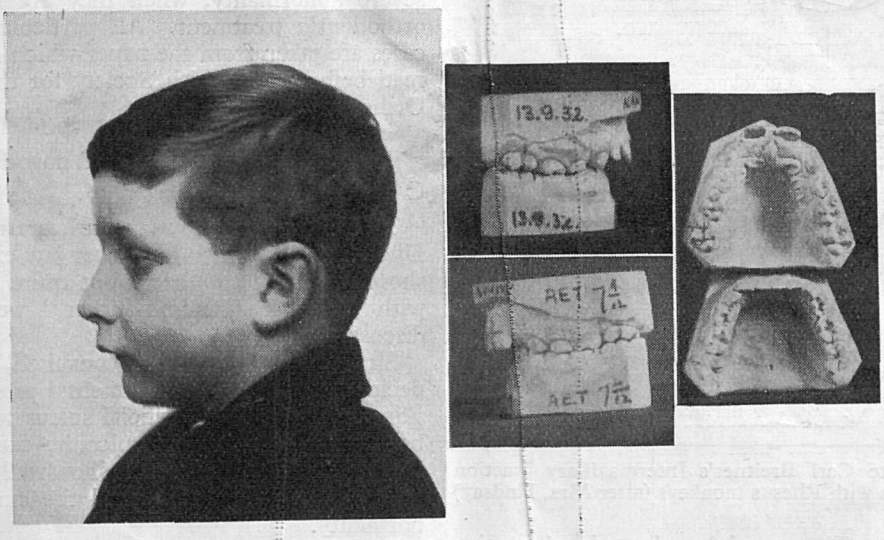
I have shown this case, not yet eight years of age, with all the deciduous molars and canines still *in situ*, to emphasise the necessity for early treatment, particularly where a severe habit deformity is present, as in this case, and is the last one to be shown this evening.

Visick[11] emphasises that, if stability is to be obtained following the use of intermaxillary traction, it is essential to commence treatment not later than at nine years of age. Intermaxillary traction is an artificial moving forward of the whole lower jaw.

Rhesus monkeys were used as most nearly approaching man both in tooth form and in the temporo-mandibular articulation. One monkey was inflicted with apparatus, whilst a similar animal was kept untreated as a control. By means of cast caps and wire arches, both upper and lower arches were secured as two distinct units, and intermaxillary elastics were hooked between the upper arch in the canine region and the lower arch in the first molar region.

Elastics were used only between meals, and the animal was muzzled to prevent it interfering with the appliances.

After being treated for 82 days, the experimental and control animals were killed, and the bone examined for dimensional and structural changes.



Case 4.

As I have already stated, in the formation of an Angle Class 1, Division 3 case, such as we saw in the third case this evening, the forward movement of the lower jaw is followed by bone changes of the temporo-mandibular joint, and in the body of the jaw, which render this forward bite a permanent condition.

So, even if we are not interested in the correction of bad Angle Class 2 deformities by use of intermaxillary traction, I feel that Carl Breitner's experiments[12] with rhesus monkeys are of importance from the light they shed on bony changes taking place in the formation of other abnormalities, such as that reported in Case 3. The experiments were performed in Vienna, and are reported in the *British Dental Journal*[13] in 1930.

Wherever bone was examined, it was found that changes had been in accordance with the law :

Absorption on the pressure side ;

Deposition on the tension side.

Where absorption had taken place there were giant osteoclasts, and where deposition had taken place there was an increase in the number of osteoblasts present, and an orientation of the bony trabeculæ in the direction of tension.

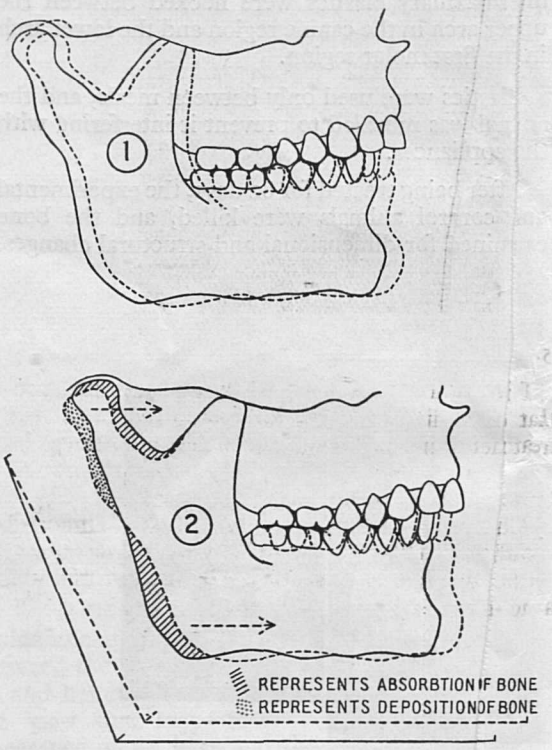
Change took place in three main positions :—

1. The glenoid cavity.
2. The ramus of the mandible and angle of the jaw.
3. The interdental septa of the lower alveolus.

In these diagrams the black line represents the mandible before treatment ; the dotted line, after treatment.

1. *The Glenoid Cavity.*—Changes shown as 1 in this diagram.

The glenoid cavity in the temporal bone showed absorption on the anterior surface and deposition on the posterior surface; this had the effect of having moved the glenoid cavity forward in the temporal bone without having appreciably altered its shape. The condyle showed absorption anteriorly and deposition posteriorly, but here again the change was compensatory, and there was little change in the form of the condyle.



To illustrate Carl Breitner's Intermaxillary Traction experiments with Rhesus monkeys (after Mrs. Lindsay)

The interarticular fibro-cartilage seemed to have suffered undermining by absorption.

2. *The Ramus of the Mandible*, and angle of the jaw. I have shown roughly the somewhat complicated changes taking place here. Shading represents deposition of bone. Close lines represent absorption of bone.

The effect is that of opening out the angle of the jaw, giving a condition analogous to that present in the extremes of youth and age.

The straight black and dotted lines are to illustrate how opening out the angle increases the total antero-posterior length *without involving elongation of either body or ramus of the jaw.*

The dotted horizontal line appears vertically above the black horizontal line, but in reality this is not the case, for absorption on the outside and deposition on the inside at the angle of the jaw bring the angle inwards and downwards.

3. *The Septa* between the lower teeth showed absorption on the distal side of the septum and deposition on the mesial side of the septum, as would be expected.

Look again at the photograph of the boy, Case 4, who provoked our discussion on the effect of intermaxillary traction on the lower jaw. If this boy were brought to us for treatment at the age of 17 instead of seven, we should refer him to the prosthetist—especially if he were a girl!

Mr. F. A. Walker has kindly lent me illustrations of two cases, which illustrate very well the methods which are available for the treatment of cases of severe abnormality, when they are too old for orthodontic treatment. All particulars of these cases are taken from the paper which Mr. Walker read before the British Society for the Study of Orthodontics.[14]

The first of these cases I will now describe :—

CASE 5.—P. B., a girl, aged 16.

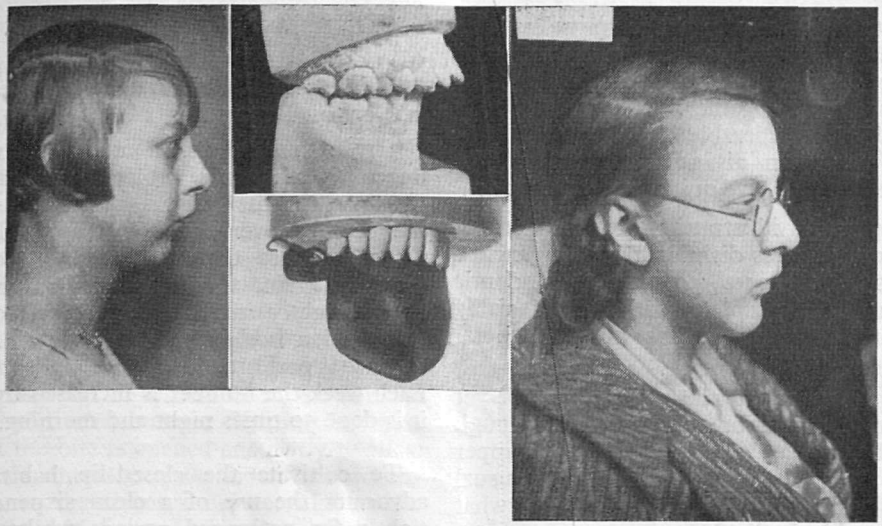
The first picture shows the girl, an Angle Class 2, Division 1 case, with her lower jaw exceptionally short from front to back, but quite comparable with the little "thumb-sucker" we have just discussed.

Sir Harold Gillies was consulted, and it was decided to give this girl a mental prominence by skin-grafting a deep artificial sulcus which would be plumped out with a vulcanite extension to a lower denture. The models show well the severity of her dental deformity, and the extreme post-normality.

Sir Harold Gillies implanted a Thiersch graft from mental foramen to mental foramen. This was held in place by a Stent plug, kept in position by a labial sulcus extension to a cast appliance cemented over the lower teeth. After ten days a gutta-percha plug was inserted, followed in another month by a vulcanite appliance. By this time the rapid contraction of fibrous tissue had ceased.

A year after the operation, Mr. Walker extracted all teeth anterior to the molars in the lower jaw, and in due course fitted the denture shown, with a bulky flange fitting into the mental sulcus. With a view to increasing incisive efficiency, the incisor teeth were placed in a position anterior to that occupied by the natural teeth. The denture was perfectly stable.

The photograph of the girl after treatment with her denture in place shows her greatly improved appearance.



Case 5.

Here are two typical cases of Angle Class 2, Division 1 deformity, in which the lower jaw is short from front to back, and the upper jaw shows a close bite and a narrowed inter-canine space resulting in the splaying forward of the upper incisor teeth.

The first is a boy, aged 10 when treatment commenced, who has been treated in the Children's Department.

The second is Mr. Walker's second case, that of a girl, aged 26, who required prosthetic treatment for the correction of her deformity.

CASE 6.—L. C., a boy, aged 11½ years.

This boy presented on Mr. Bull's clinic 18 months ago complaining of protruding upper teeth. He had been bottle-fed in infancy and was a mouth-breather with a markedly short upper lip.

Case 6.

The treatment of his dental deformity has been extraction of his two upper first premolars, and retraction of canines, followed by retraction of the upper incisor teeth together. His models as he is to-day show considerable improvement in his condition, and when his second premolars are fully erupted he will have quite good articulation.

His photograph illustrates how, in spite of correction of the gross disharmony which existed between his dental arches, a course of orthodontic treatment has been completed without appreciably improving the hang of the lips and the general expression.

In spite of treatment, the patient has not yet conquered the mouth-breathing habit, although he has no obvious nasal obstruction, and the upper lip is still very short and plump. His usual expression, unlike the photograph, is a somewhat vacant look, with the lips apart.

In a case of this type, the lips need stretching and strengthening. The patient is instructed that success in treatment depends entirely on his co-operation. If necessary, the mouth-breathing habit must be combated by wearing a mouth-shield at night times, and the patient is told to keep the lips tightly closed always.

To give muscle tone to these lips, the following simple exercise can be adopted with advantage.

THUMB AND FINGER LIP-STRENGTHENING EXERCISE

This is a modification of the exercise mentioned in Norman Bennett.[15]

The teeth are clenched and the thumb and first finger of each hand are placed tip to tip between the lips—the first fingers under the upper lip, the thumbs over the lower lip. The lips are thrust back to their full extent, then brought together again, the lips resisting pressure and coming tightly over the fingers at each contraction. Each action is slow and deliberate. At first the exercise is performed ten times night and morning. Each week the number is increased by five, until it is done 50 times night and morning.

To cultivate the closed-lip habit, Mr. Rix advocates the use of a clean sixpence, gripped tightly for prolonged periods whilst reading or doing hobbies.

This boy is a representative example of Angle Class 2, Division 1, where prominence of the upper teeth rather than extreme shortness of the lower jaw are the main symptoms.

CASE 7.—A. W., a girl, aged 26.[14]

The prominence of the incisor teeth is very evident in the first photograph. The models

Case 7.

show the degree of the abnormality, and the extreme closeness of the bite. The lower incisor teeth bite against the palate.

Severe chronic periodontitis was present all round the mouth, and there were, in addition, numerous cervical cavities. It was therefore decided to extract all teeth and fit dentures. The preparation of the mouth I give in Mr. Walker's own words :—

"The teeth and a gross amount of the upper anterior alveolar plate, plus a portion of the inner plate, were removed, together with a smoothing of the lower alveolus with a bone file, under endotracheal ether."

An important fact to remember in the surgical preparation of the mouth for dentures in these cases is that the bite is opened anteriorly to allow room for the dentures, *in the lower alveolus*, by trimming down the alveolus and so reducing the vertical height; *in the upper jaw*, by removing a considerable quantity of bone from the palatal plate as well as from the buccal plate.

The abnormality was so marked that it was impossible to trim away enough bone to permit the building of an anterior labial flange to the upper denture—which is a desirable factor in all upper dentures now that the natural colour translucent denture bases are available.

The photograph of the patient after treatment, wearing the dentures, shows a marked improvement in appearance. The jaw harmony is restored and the posture and tone of the lips are very good.

If we had an occlusal view of the upper model of this girl before treatment, we should notice considerable narrowing from side to side—associated, in this case, with labio-clination of the upper incisor teeth.

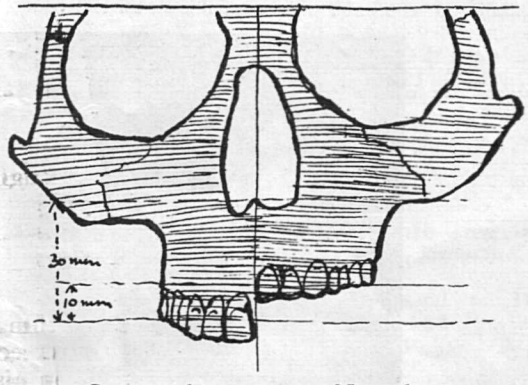
These drawings are copied from Sir Arthur Keith's lecture,[1] which I quoted to show the derivation of my title, "The Masticatory Face."

I show them because they have helped me to understand the frequent association of lower jaws "short from front to back" with upper jaws showing lateral narrowing.

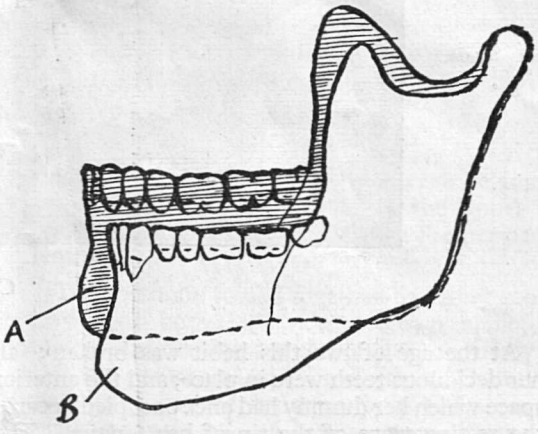
The writer of this paper has found that, in examining many modern skulls, this condition, which he calls "contracted palate," is frequently present. It is characterised by a lateral narrowing of the dental arch with a correspondingly high narrow palate.

He has pictured the alveolar bone of a jaw possessing a normal palate as standing away at an angle from the body of the maxilla, whilst in those cases where contracted palate is present, this alveolar bone occupies a more vertical position.

In addition to this "collapse downward," Brash[2] describes an excessive downward growth of upper alveolus in these cases. Thus in a case of contracted palate, the upper dental arch occupies a position considerably lower in relation to the rest of the skull than does the normal upper arch. The shaded mandible represents the normal, whilst the plain shows that found in association with contracted palate.



Contracted. Normal



A.—Mandible from normal English face.
B.—From case in which palate is contracted.

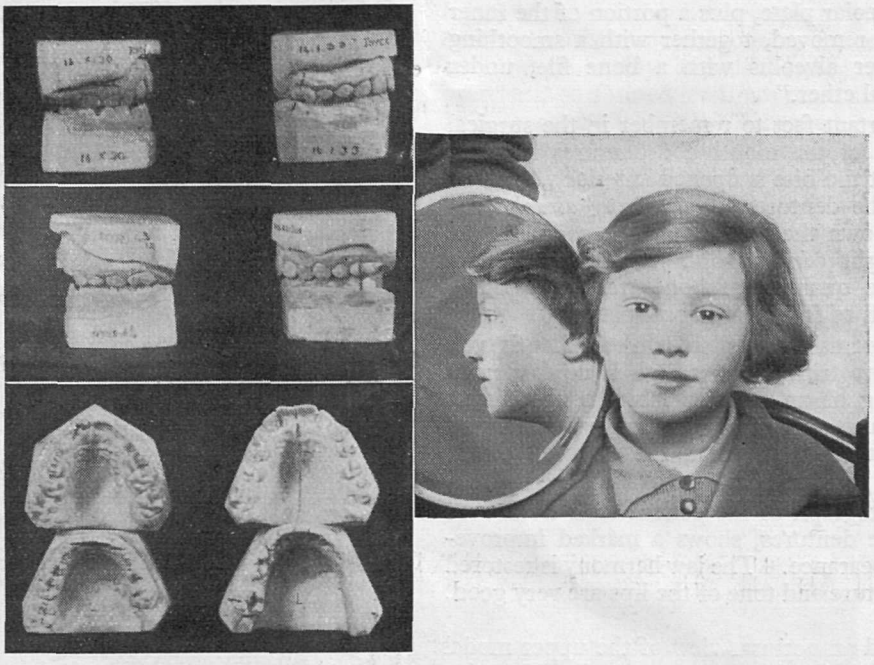
From this diagram it may be seen that, fixed in the same position in relation to the rest of the skull, *i.e.*, the glenoid cavity, having the same length of ramus and the same antero-posterior length of the body of the mandible—the front of the mandible associated with contracted palate occupies in relation to the rest of the skull a position which is posterior to that occupied by the front of a normal mandible.

This gives the appearance of a short lower jaw, but, in reality, this mandible associated with contracted palate can be the same length as the normal mandible, and still be post-normal.

CASE 8.—J. H., a girl.

Treatment commenced 18 months ago at seven years of age.

A nose-breather, J. H. was bottle-fed in infancy, and was given a comforter frequently during the first two years of her life. The deciduous incisor teeth then erupted only up to the dummy, causing open bite anteriorly.



Case 8.

At the age of two this habit was broken; all her deciduous teeth were in place, and the anterior space which her dummy had once occupied became the resting-place of the tip of her tongue. The models on the left side show that this condition of open bite persisted when her permanent incisors erupted, which they did prematurely.

The insertion of an ordinary upper Badcock expansion plate has been sufficient to break the habit of thrusting the tongue between the two dental arches anteriorly, with the result that the condition of open bite has gradually disappeared through the uninterrupted eruption of the incisor teeth.

Associated with her open bite, this child had lips open at rest. Even three months ago the child showed a strained pursing of the lips due to the conscious effort she was making to keep the lips closed. Her photograph shows that her lip posture and tone, although not yet perfectly natural, is greatly improved. In a few months' time, she should have a natural and charming expression.

Open bite seen after the age of ten years of age is liable to be one of the most difficult and stubborn conditions with which the orthodontist has to deal. This case illustrates the effortless ease with which some cases will yield if treated early enough. Early correction of faulty lip habits is as important as early correction of dental irregularities.

After such a case as this last I feel justified in quoting, even at second-hand :—

" There is a tide in the affairs of men
Which, taken at the flood, leads on to fortune.
. . . . . .
And we must take the current when it serves,
or lose our venture."[16]

In conclusion, I wish to thank Mrs. Lindsay for access to all the necessary books and for her generous help. Also for permission to use copies of her line drawings illustrating Carl Breitner's intermaxillary experiment; Sir Arthur Keith and the Dental Board of the United Kingdom for permission to copy two diagrams describing the contracted palate and associated mandible; Mr. Boquet Bull for his help and generous permission to use the various hospital departments to collect material; Mr. Rix for all the material used in

describing Cases 4 and 8; Mr. F. A. Walker for descriptions and loan of illustrations for Cases 5 and 7.

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Two Cases of Gemination

By R. A. Johnson, Esq.

Before I actually show you these cases of gemination I feel I ought first of all to say a few words about the way in which this condition occurs. Perhaps it will remind you of Dental Anatomy a little, but there I crave your indulgence.

Gemination of teeth is described as being the union of the teeth by one or more of the calcified dental tissues. It may be of two distinct kinds :—

(*a*) True, or developmental, gemination.

(*b*) False, or pathological, gemination.

Developmental gemination may occur in any part of the mouth, and occurs between teeth of the normal series, in either the deciduous or permanent dentitions, and also between teeth of the normal series and any tooth in excess of the normal number. In the deciduous dentitions it occurs generally in the maxillary and mandibular incisor regions, but has not yet, according to Sprawson and Collyer, been recorded in the molar region. In the permanent dentition it occurs in the maxillary and mandibular incisor and molar regions, being rare in the premolar region owing to the different times of development of the teeth. If teeth of the normal series are geminated with teeth in excess of the normal number, it occurs mostly in the upper and lower incisor regions in the deciduous dentitions and in the upper and lower incisor and molar regions in the permanent dentition.

The teeth are joined together by either root or crown, or both; if by the crown alone, the enamel and dentine are continuous, and if by the root the cementum and the dentine. Geminated teeth may have a common pulp chamber and separate canals, or may have separate chambers.

There are two theories put forward to account for the phenomenon of true gemination :—

(*a*) The fusion of neighbouring tooth germs.

(*b*) Incomplete dichotomy of a tooth germ.

When arising by the fusion of two neighbouring tooth germs, the gemination will be between two teeth of the same series, and is, perhaps, caused by the too close apposition of two germs. Incomplete dichotomy, or partial splitting of the germ, will give rise to gemination between a tooth of the normal series and one in excess of the normal series.

False gemination is a pathological condition, and is the fusion of two teeth owing to some chronic irritation causing a cementosis to such a

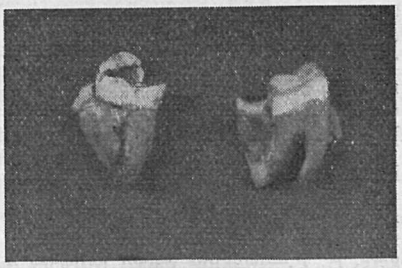
degree that the bone intervening between the roots of two teeth has been absorbed, and the roots of the adjoining teeth become joined by cementum. It occurs most commonly between the roots of the upper second and third molars, but it may occur anywhere in the mouth.

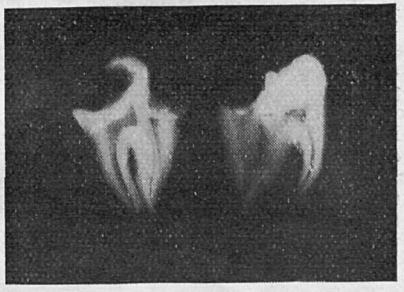
I have here two cases of what I believe to be true gemination: the teeth, or what is left of them, a photograph of them before they were mutilated, two X-ray pictures of them and a cross-section of each tooth taken just at the necks of these teeth. I have also another specimen, which has, however, not been sectioned or photographed.

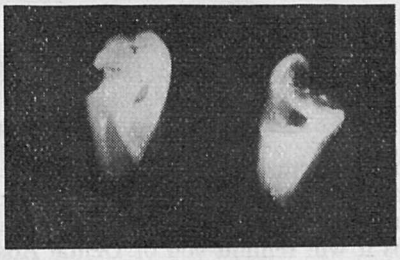
The first two are examples of true gemination between teeth of the normal series. One, the specimen marked A, is a lower right second molar, to which is geminated the third molar. It was extracted from a female patient of about 35 years of age, on account of pain, which was caused by a carious exposure. The other, B, is also a lower molar extracted from a female patient, but I am unable to find out which tooth this was.

The last specimen is an example of bone gemination between teeth of the deciduous dentition, the two teeth being extracted in the Children's Department. The teeth are the lower right deciduous second incisor and canine. I must apologise for the fact that I have not had these teeth sectioned, but they have only just lately come into my possession.

In the tooth A the X-rays and section show a common pulp chamber and separate canals, and in B the X-rays show what appears to be a common pulp chamber, but the section cut a little low down does not demonstrate this. The sections and X-rays are here for your inspection, and I ask







you to look at them either now or at the close of the meeting.

Presentation of the Mace

Reprinted by the courtesy of the Editor and Publishers of "The Australian and New Zealand Journal of Surgery."

MR. C. H. FAGGE, sometime Vice-President of the Royal College of Surgeons of England, in presenting the mace to the Royal Australasian College of Surgeons, said:—

Mr. President: In the name and by the authority of the Council of the Royal College of Surgeons of England, I ask you, on behalf of the Fellows of the Royal Australasian College of Surgeons, to accept this mace which my colleagues hope may remain throughout the existence of our two Colleges an emblem of the brotherly affection which binds us together.

A mace was in early days a weapon of offence, but in the 12th century ceremonial maces, originally intended for the protection of the King's person, came into use. At first the flanged end of the mace, that is, the head of the war mace, was borne uppermost and the small button bearing the Royal Arms in the base, but by the 15th century the position was reversed owing to the greater importance of the end which bore the Royal Arms; gradually this end of the mace has completely eclipsed the "heel" as the beauty and elaboration of its decoration increased.

In the year 1822 a mace was granted to our College by the munificence of our most august Sovereign King George IV; this was some 13 years before the first settlers erected on the banks of the Yarra those turf huts which, under the name of Dootigala, were destined to provide the earliest traditions of this great and beautiful city.

In our charter of that year which was supplementary to our first charter of 1800, it is set out that "it is Our further will and pleasure that it shall and may be lawful to and for the said College at all times hereafter, and upon all such occasions as they shall think proper and expedient, to exercise and enjoy the Right and Privilege of having a mace."

In designing this mace for the Royal Australasian College of Surgeons, Omar Ramsden has followed the general form and proportions of that of the Royal College of Surgeons of England which was executed by His Majesty's goldsmiths; of necessity the ornaments have been altered and appropriate emblems have been introduced.

By express permission of His Majesty King George V the finial is formed by the royal orb and cross; these emblems are supported by four arms or buttresses suggesting the form of a monarchical crown, and on them is woven a border of briar symbolising the thorny path which leads to greatness.

The four panels around the head bear the arms of the Commonwealth of Australia, of the Dominion of New Zealand, of the Royal Australasian College of Surgeons and of the Royal College of Surgeons of England, between which are oak decorations emblematical of the permanence of the institutions just mentioned.

Beneath the head, which, as is fit, is supported by eight British lions, is a wavy strip to symbolise the separating seas.

The universal decorations are the rose of England, the seven-pointed star and wattle of Australia and the fern of New Zealand; and the staff bears the names of the donors—the 24 members of the Council of the Royal College of Surgeons of England in the year 1930-31.

The cap bears the Royal Arms, and round this is a legend that it is the gift of our College to yours—as brothers to brothers.

And now, companion of my waking thoughts for many months, farewell. You have I watched from earliest hours when, plate of virgin silver, you gave yourself to be fashioned by the craftsman's skill. Your every spray of wattle, every frond of fern have come to life within my ken, and, gradually, once a thing inanimate, your spirit has entwined itself round mine. To-day we part, but it is my hope that your new friends will ever hold you in their hearts, not only as a kingly emblem richly wrought, but as a spirit of affection which has passed from Mother Country to her sons. Stay here ever to watch their future, to guide their aims, and to bless their destiny.

Sir Henry Newland, President of the Royal Australasian College of Surgeons, in accepting the mace, used the following words:—

Mr. Fagge, as President of the Royal Australasian College of Surgeons, I accept with pride and gratitude this most beautiful mace presented by you on behalf of the Council of the Royal College of Surgeons of England. The generous motives and the fraternal sentiments which prompted the gift have touched our hearts. We appreciate to the full the thought, the care and the skill bestowed upon its design and construction. The mace is a symbol of the trust reposed in those who, in this Commonwealth and in the Dominion of New Zealand, have in their keeping, now and ever, the good repute of surgery. This young College, looking beyond the seas for inspiration, finds it in the ideals and example of the Royal College of Surgeons of England. The College is conscious, too, that the good repute of surgery must be wounded should the flame of science flicker, should the hand in the exercise of the art fail or falter, should the feet of its votaries stray from the path of honour. Of these three, the science, the art and the honour of surgery, this mace is an emblem cast in noble mould. In pledging ourselves to cherish it, may our vision of its beauty ever strengthen our purpose to adhere to all it symbolises.

Correspondence

Death After Extraction

To the Editor of the GAZETTE

SIR,—In his paper on "Death after Extraction," printed in your issue of February 18th, Mr. Rushton has dealt with a subject of great importance, and one that is, perhaps, discussed too little in medical circles. I am not certain that his advice is quite definite enough, because in one place he says, "A great thing to bear in mind is—Do not extract too many teeth at once," and later on he ways that in some people it is less dangerous to extract all the teeth at one time and so avoid weekly journeys to and fro, and there is also the possibility that the sockets of recently extracted teeth may become infected by those bad teeth which have not yet been removed.

A clear-cut decision on this point is of vital importance.

As is so often the case, my own experience was unfortunately obtained at the expense of a patient; he was a Guy's man of 45 who came under my care in June, 1923. During the war he had served out East and had had dysentery, and recently there was vomiting and diarrhœa, with swellings of the feet. When he came to me he was a severe case of nephritis with much albumin in the urine, and a blood urea of 249 milligrams; hæmoglobin, 55 per cent.; his teeth were in a very bad state indeed, and removal was advised. Acting on the principle, generally accepted at the time, that the removal of more than one tooth at a time would be a danger to the patient, Mr. Lewin Payne, at my suggestion, removed a tooth at weekly intervals, and streptococcus longus was grown from the colon and from the roots of the teeth. To our great surprise we observed that about 30 hours after the removal of each tooth blood appeared in the urine and the patient had renal colic with the eventual passage of blood clots. This sequence of events was repeated sufficiently often to make us certain that the removal of each tooth caused a hæmorrhage, and suggested that the nephritis might have been accounted for by the oral sepsis. Subsequently I happened to mention the case to Mr. Hugh Lloyd-Williams, who pointed out that by removing a tooth cellular tissue was opened up through which infection from other teeth could gain access to the body. He referred me to his presidential address at the annual general meeting of the Metropolitan Branch of the British Dental Association on December 9th, 1925, published in the *British Dental Journal*, page 60.

His procedure at the West London Hospital was to cleanse the mouth by scaling, taking particular pains to remove all the tartar from the spaces between the teeth; and in the interval the mouth was frequently washed out with mild boracic solution and finally swabbed with 5 or 7 per cent. hydrogen of peroxide. When the patient returned for the extractions the mouth was as clean as it was possible to make it; if all the necessary teeth could not be removed at one sitting the most septic were chosen for removal first of all. A particular note was made by the Casualty Officer and the Out-Patient Sister for any case that returned because of hæmorrhage, this being a sign of sepsis. In the course of three months no case occurred with an average attendance of 60 on two days in the week, and with an average number of extractions of four per person. There were almost daily cases of hæmorrhage from extractions in the district round the hospital, and these were treated as septic cases.

I will quote the next few paragraphs in his own words: "There have been men who have advocated that in a very septic mouth the teeth should be extracted one at a time, and as a conclusive proof of their position they record cases where, after such a treatment, the patient has suffered severely. Imagine a surgeon approaching a foul appendix and saying, 'As this is in such a very septic condition I will only take a small piece away to-day,' and then pointing out that the fatal result showed how correct his treatment had been!

"I suppose that I have had as much experience of these cases as any man living to-day. In private practice the routine cleansing of the mouth is done one day, the patient is instructed to wash the mouth frequently with peroxide of hydrogen 5 per cent., and the condemned teeth extracted the following day—every one. The big cases are best done in a nursing home, because the attention to details is difficult in a private house.

"I have never seen bad results; I do not see how they can happen. The temperature, as one would expect, goes up half a degree or a degree and comes down again in the first 24 hours. The subsequent treatment consists of frequent washing with warm boracic solution or weak carbolic, about 1 in 80, and thorough washing with peroxide 5 per cent. morning, noon and night."

Needless to say I have not had the same wide experience as Mr. Lloyd-Williams, but I always have attempted to get all septic teeth removed at one sitting, and I cannot remember having had any bad results;* for instance, a patient recently in the ward who had 20 teeth removed had a rise of temperature to just over 99° about the third day after the operation; I do think the preliminary cleaning and scaling of the teeth should be emphasised, and that this should be done a day or two beforehand, and not a few hours before the extraction. I certainly have seen two or three cases of infective endocarditis which have followed directly on the removal of teeth one by one without any preliminary cleaning up of the teeth. Of course, the removal of teeth, like any operation under anæsthesia, may occasionally produce shock with fatal results, and I suppose that Dr. Skene Keith's cases may be accounted for on these lines, but I should be interested to know whether the preliminary cleaning and scaling were carried out in these cases because this might help to prevent such a catastrophe.

Yours, etc.,

E. P. POULTON.

Upper Wimpole Street,
W.1.

* There was one fatal case in a man with myxœdema and complete absence of the suprarenals disclosed at post-mortem; how he remained alive at all I cannot imagine. There was no suggestion of Addison's disease. Obviously the operation was an error of judgment.—E. P. P

The Debating Society

To the Editor of the GAZETTE

SIR,—We must thank the three gentlemen writing in your last number both for their kindly approbation and for their most constructive criticism. Their letter explains many things. It explains, perhaps, even the apparent lack of much previous interest in the Society on the part of your correspondents themselves.

It might well be mentioned here that the existing committee of the Society is subject to re-election at a general meeting to be held early next term. It is to be hoped that our supporters will attend, bringing with them some of that celebrated " breadth of vision " which is so much to enliven and invigorate our future debating activities.

Yours, etc.,

E. DUNSTAN,
Secretary
(For Debating Soc. Committee).

Guy's Hospital,
S.E.1.

The " Peace " Question

To the Editor of the GAZETTE

SIR,—Although the ominous rumblings of the outside world penetrate but little into the cosmos of the medical man, engaged as he is on matters of more permanent import, one cannot but be impressed by the fact that our life's endeavour in the fields of Medicine, Surgery or Nursing will be rendered in some degree nugatory by our disintegration at the hands of enemy aircraft or the thrusting of an angry bayonet through the vital portions of our anatomy. To that extent is the question of organisation of Peace the concern of the student of Gray, Osler and Ashdown.

No one can deny that, unless effective steps are taken to protect civilisation from disruption, the probability of a world war on a scale of horror hitherto unprecedented is a practical consideration. One important step towards the prevention of such a catastrophe is the free discussion by individuals of this question, and an understanding by them of the problems involved.

There may be amongst your readers those who consider that the only hope of safety lies in the League of Nations—there may be those who feel that the League is the one menace to the peace of the world ; there may even be those who, like myself, have plans which, were we but Mussolinis or Hitlers instead of insignificant medical students, would by a stroke of the pen solve the problems of the world.

I should very much value a discussion with any of your readers (on both sides of the Park) who are interested, and if they will let me know personally or by note I will arrange a time and place where we may meet and discuss this question with less formality than the Hospital Debating Society could offer.

Yours, etc.,

H. J. B. ATKINS.

3, Grosvenor Crescent,
S.W.1.

Mr. Fagge's " Appreciation "

To the Editor of the GAZETTE

SIR,—Your altogether too generous " appreciation " of the latest member of the Consulting Staff contains one or two mistakes which should not be allowed to go uncontradicted.

Sir John Goodwin, Lieutenant-Governor of Queensland, and Mr. V. Bonney were already Honorary Fellows of the Royal Australasian College of Surgeons when I was added to the Roll last year.

The Throat Department was in the hands of Mr. Steward and I held the Ear Department from 1902 to 1908.

My elder brother—R. H. (the " Old 'Un ")—and I were the representatives of the fifth generation of Fagges, of whom now, for six generations, every male but one (who died at 23) has been a doctor and was trained at Guy's.

What I have written applies to statements in the serious part of your correspondent's narrative ; were I to attempt to pin him down to a semblance of truth in those passages written in " lighter vein " I should display a very defective sense of humour.

I was disappointed that he did not remind your readers that in 1895-96 I sat in your chair, but the thing—and the only thing—which really hurt me was that he should accuse me of frequenting any hostelry but the " Ship," for those who were privileged to count " the Boss " as a friend would have regarded it as an insult to him to be seen in any other billiard room.

I have received evidence of so much affection and friendship in presents, letters, etc., from Guy's women and men, for which I can never return adequate thanks, and not the least kindness I have received is the article in question.

Yours, etc.,

C. H. FAGGE.

To the Editor of the GAZETTE

SIR,—I have read the appreciation of C. H. Fagge with interest and pleasure, but I would point out that his contemporaries in the early '90's did *not* belong to the age in which "beards being then the common cult."

I have before me now a photograph of the Past and Present Tennis Match on the opening of the Honor Oak Ground, 1893, and also a group of Residents, 1895-6—in neither of which has anyone a beard!

The generation before (my father's generation, about 1860, at Guy's) did cultivate beards as students, owing to the influence of the bearded soldiers returning from the Crimean War in 1856 setting the fashion.

Yours, etc.,
ASTLEY V. CLARKE.

10, University Road,
Leicester.

Football v. Borough Market

To the Editor of the GAZETTE

SIR,—The annual football match against the Borough Market will be played at Honor Oak Park on Wednesday, April 5th. As the proceeds of this match are given to the Hospital it is hoped that it will be well supported.

Yours, etc.,
L. COSIN,
Hon. Sec., G.H.A.F.C.

Residents and the Take-In

To the Editor of the GAZETTE

SIR,—Fully realising that we cannot expect to have any part in the administration of the affairs of the Hospital, we feel that when a question arises so closely affecting the Residents as a change in routine of the "take-ins" an opinion from them might be of some interest and, perhaps, value.

Though nothing definite has yet reached our ears, we believe the alterations are to take place from May 15th next. Discussion among the Residents has shown unanimous dissatisfaction at the new changes, and it was generally agreed that, far from being of any advantage to the House Officers, they would seem probable to lead to unnecessary difficulties and complications.

Yours, etc.,
WINDSOR H. LEWIS,
President, Residents;
G. H. CROWTHER-SMITH,
Vice-President, Residents.

Students Rugger Final Collection

To the Editor of the GAZETTE

SIR,—It was with very great pleasure I was able to report at the meeting of the House Committee this morning the handsome result of the collection made by the students on the day of the Rugger Final, March 15th, 1933, which has augmented the Funds of the Hospital by £568 14*s.* 2*d.*

The Governors of the Hospital desire me to express to you, and to all those who co-operated in this collection, their very hearty thanks for rendering such valuable help, and in securing such an excellent response to the appeal on behalf of our funds. The interest taken by the students on this and former occasions in the financial welfare of Guy's is sincerely appreciated by the Treasurer and Governors of the Hospital.

Yours, etc.,
W. J. CURRY, *Clerk.*

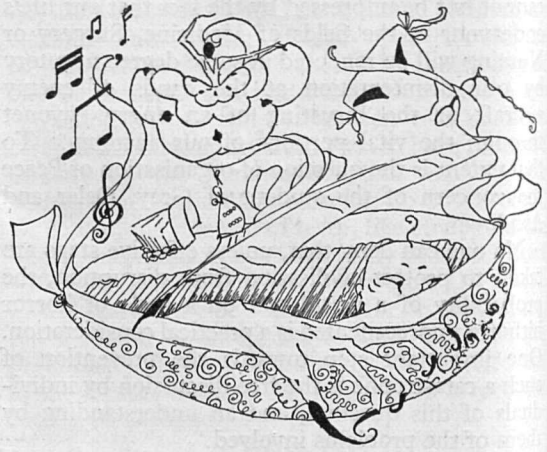
An Important Coming Event

AS an Easter egg is full of surprises, so is the Nurses' Concert to be held on Wednesday, Thursday, Friday, April 19th, 20th, 21st, in the Physiological Theatre at 8.15 p.m.

Come and see for yourselves!

Bring your friends!

The programme rivals any to be seen in London during Easter Week.



In addition, the cause will appeal to all Guy's men and women. It is—

THE COSMO BONSOR MEMORIAL FUND.

Tickets, 2*s.* 6*d.* and 1*s.* 6*d.*, may be had from Sister Hilda or Sister Florence, The Revelstoke Department, or any member of the Nursing Staff.

Nursing News

THE following nurses have passed the Final State Examination held in February last, and their names have been added to the General part of the State Register :—

M. Besley
E. Caton
J. Churton
A. J. Coleman
P. English
E. Everett
F. Farmer
M. P. Mullender
E. A. O'Farrell
C. M. O'Grady
M. O'Sullivan
E. A. Purcell
E. G. Reed
D. Rider
K. Finnemore
N. Gowing
J. H. Grierson
E. H. Grimwood
W. Harnett
D. Jessop
M. J. Livingstone
F. Shakeshaft
K. B. Shearn
D. V. Stewart
A. Twysden
M. P. Watts
M. G. Williams
C. K. Williamson

Affiliated with the Cancer Hospital, Fulham :—

V. E. R. Jones
E. Lewry
K. Lloyd
E. A. Warner

Sport

Rugby

Inter-Hospitals Cup Final

Guy's v. Bart.'s

AT Richmond on Wednesday, March 15th, Guy's and Bart.'s met again in the Final Round and, after a most exciting game, Guy's were successful by a dropped goal and a try (7 points) to nil.

The weather was ideal, and therefore it was not surprising to find what appeared to be a record crowd to see one of the best matches of the competition.

Fortunately, both teams were able to field their strongest sides, and, although it was expected that Bart.'s would control the scrums, it was the general opinion that Guy's had the better outsides.

As it turned out the Guy's pack played magnificently; they not only held their own up to the interval, but towards the end of the second half they had established such a superiority that they elected to have scrums for lines-out, and this move paid them handsomely, as they were able to give their backs all the opportunities possible at a time when the back division were definitely on top.

The Hospital three-quarters took some time to settle down, and in the first half several opportunities were thrown away by missed or fumbled passes, but to some extent this was excusable considering the intense excitement which prevailed.

However, as the game proceeded they found their feet, and were a continual source of trouble to Bart.'s, but the latter's defence was very nearly perfect. In fact, the defences of both sides reached a particularly high standard, and, as is usual in Cup-Ties, the marking was very close and the tackling accurate and hard.

Nobody stood out more prominently than C. R. Morrison, the Bart.'s full-back; he was splendid, and on several occasions saved his line when a score appeared certain. His steadiness and sure fielding of the ball, coupled with long-range kicking to touch, proved invaluable to his side.

For Guy's it would be difficult to single out any individual for distinction, as they all played their parts magnificently. The forwards laid the foundation of success, and T. Morgan, the Captain, is to be congratulated in leading the pack so well. Darke, O'Shea and Kark were an ideal front row, and O'Shea hooked better than ever. Drummond and Robin were a tower of strength in the second row, whilst Hogbin, Morgan and Walt were excellent in the loose and lines-out.

Johnson and Wright did everything required of them in keeping the speedy Bart.'s wings in check, whilst Thomas was splendid both in attack and defence. The triangle of Thomas, Giesen and Alexander was continually in evidence, especially in the second half, and, but for some first-class tackling, would have scored on several occasions. At full-back Clegg was very sound, and, although he had not so much to do as his opposite number, his kicking was sure and accurate.

Considering that he was up against J. T. C. Taylor, the trial Cap, Bowles came through the ordeal remarkably well, and distinguished himself on more than one occasion by his elusiveness on the blind side of the scrum.

The first half was very evenly contested, and, with each side attacking in turn, the game swung rapidly from one end of the field to the other.

Bart.'s, with the advantage of a slight breeze, were the first to take up the offensive, and a short kick by Curtiss past Clegg looked very dangerous, but Giesen came across and touched down just in time.

A fast rush by the Guy's forwards brought relief, and Hogbin had a long shot at a penalty

goal, but the Bart.'s forwards retaliated and a fine dribble by Wilson was checked by Thomas. The ball was sent back quickly to the other end of the field, and Morrison saved his line with a clever mark when he had his back to the oncoming forwards.

Bart.'s returned to the attack and Curtiss managed to get past Wright, but slipped when trying to run round Clegg.

After Nel had tried a long-range drop at goal, Guy's attacked in force before the interval, and a strong dash by Alexander only just failed to reach the line.

Immediately after the re-start, the Guy's back division got on the move and several delightful bouts of passing between Alexander, Giesen and Thomas looked dangerous, but the Bart.'s backs dropped back quickly and saved.

Alexander and Giesen both made fine runs through the centre, but on each occasion Morrison saved the situation by first-class tackling. Thomas tried a drop at goal, and a minute later nearly sent in Johnson when he cross-kicked from the right wing, but the ball bounced awkwardly and the latter was thrown into touch a yard or so from the line. From a scrum near this spot Guy's heeled smartly, and Giesen dropped a good goal to give Guy's the lead.

Following this reverse, Bart.'s made a desperate effort to draw level, but Hogbin and Bowles sent them back, and gradually the ball was worked down the left wing, until Thomas broke away with Darke in support; from the latter's pass Johnson raced over in the corner for an excellent try, which Hogbin just failed to convert.

Both sides were now playing splendid football, and a great run by Alexander nearly put Wright over, whilst a little later a snap round of passing might have led to a score for Bart.'s, but Pirie delayed his pass to Nel and Johnson brought off a fine tackle and checked what would have been a good opening.

No further scoring took place, and Guy's retired worthy winners as stated.

Team.—W. B. Clegg; A. G. Johnson, J. E. Giesen, P. C. Alexander, C. G. Wright; I. K. Thomas, V. H. Bowles; M. R. Kark, J. P. O'Shea, C. S. Darke, I. G. Robin, R. J. Drummond, R. A. P. Hogbin, T. Morgan (Capt.), M. L. Walt.

Hospital Information, etc.

Pass List

L.D.S., R.C.S. (ENG.).

February, 1933.

FINAL EXAMINATION.

PART I.

Surgery.

J. R. C. Hindle
A. W. Turner
H. W. Westoby
E. O. Clough
R. E. C. Farrant
J. H. G. Fensom
L. B. Holmes
W. E. Morton
F. Stevens
J. H. Thompson
J. G. Spiller
W. E. Waite
F. N. Beken
W. G. C. Dimock
G. D. Fleetwood
A. Gorton
C. H. James
M. H. J. Simpson
H. A. Thompson

PART II.

Dental Surgery.

J. R. C. Hindle
A. W. Turner
F. C. Hampson
G. D. Lloyd
P. K. Robinson
W. G. Scoble
R. B. Sumerling
F. J. Bloor
H. A. M. Ching
H. Kanaar
L. E. Marshall
W. F. Rose
H. R. Stubbs
A. C. Fuller

Papers by Guy's Men

N. Burgess. Some common ground in ophthalmology and dermatology. *Ophthal. Soc. Trans.*, 1932, lii.

—— Treatment of lichen planus with bismuth. *Urol. and Cutan. Rev.*, 1933, 173.

H. C Visick. Possibilities of, and difficulties associated with, fixed appliance work. *Dent. Rec.*, 1933, liii, 105.

J. D. Cambrook. Unusual foreign body in lip. *Dent. Rec.*, 1933, liii, 118.

W. R. J. Wood. Comparison of plastic denture bases. *Dent. Rec.*, 1933, liii, 119.

J. S. K. Smith and A. Tom. Note on protoduodenitis. *B.M.J.*, 1933, i, 362.

C. Worster-Drought. Hepatomegaly with persistent ketonuria in a child. *B.M.J.*, 1933, i, 403.

E. C. Lowe. Quantitative modification of Bendien reaction in sero-diagnosis of malignancy. *B.M.J.*, 1933, i, 407.

T. B. Layton. Treatment of enlarged tonsils in children. *Lancet*, 1933, i, 509.

H. W. Barber. (i) Hyperkeratosis of palms associated with high blood uric acid; (ii) Pre-mycosic erythrodermia; (iii) Acrodermatitis atrophicans (Herxheimer) Erythromélie of Pick. *Proc. R.S.M.*, 1933, xxvi, 497.

L. Forman. (i) ? Drug eruption: Case for diagnosis; (ii) Parapsoriasis with necrotic lesions: Case for diagnosis. *Proc. R.S.M.*, 1933, xxvi, 498, 499.

T. B. Layton. Earliest physical signs of otitis media. *Proc. R.S.M.*, 1933, xxvi, 568.

L. J. Witts. Discussion on treatment of anæmia. *Proc. R.S.M.*, 1933, xxvi, 607.

Appointment

J. B. Blaikley, F.R.C.S., Assistant Surgeon, City of London Maternity Hospital.

EDS. { E. S. M. J. McA.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

LIKE most of the other public bodies, Guy's is in the habit of issuing annual reports on the work done during the previous year by the various departments. Happily, though, its authorities do not phrase these reports in language that is understood only by the subtle plastic mind of a lawyer, or an expert in local government with a flair for statistical tables. And so, when we have carefully digested a succession of blue books, or the White Paper on India, or have risen half-drowned from the correspondence that still goes on as to the correct interpretation of the Versailles Treaty, we can turn to some of their reports for easy and interesting reading. One of the most illuminating comes this year from the Free Lending Library.

As all our readers know, this association was started only two years ago for the purpose of providing free reading for the patients in the wards. All the books have been given, and from a very modest origin the Library has now 5,000 books on its shelves, which were lent out 25,000 times during 1932. The demand for books is increasing, and the ward round done by the librarians has now come to stay as part of the morning routine. So popular is it becoming that we may yet see the time when it threatens to oust that of the houseman in providing for the comfort of the patient. Let the houseman beware of this, and, above all, if he is to keep the upper hand and remain in good grace, let him see that his round does not clash with the hour set aside for the read and the smoke.

Yet it seems to us that far from creating jealousy this book service can be turned to the advantage of the houseman if only he can be persuaded to turn his clinical observation to things other than physical signs. We are told that you can judge a man by the wife he keeps. But why not the more judge him on the book he reads? Diathesis is all the rage nowadays, and what better expression of it than literary taste? Would a rheumatoid arthritic choose books entitled "Fifty Years with General Hardhead in the Sudan" or "The Choicest Wines of France"? Of course not. The intelligent houseman would suspect a gouty element at once. The literary taste is as good as a tophus in establishing the diagnosis. Myxœdema is, as we know, often difficult to diagnose. Have your suspicions, though, should one of your patients take his reading very leisurely or confess that he cannot be stirred by the romances of Edgar Allan Poe. Contrast with the myxœdematous doing his five pages a day the born worrier—the hyperpietic, or him with the hypersthenic-ulcer diathesis, who must see the end of the story before he has half begun, or the hyperthyroid weeping bitterly at each *denouement*. Does that pale girl wallow in Charles Garvice or Ethel M. Dell? Investigate her, then, to see whether she be suffering from the pangs of unrequited love. When called upon to decide on the value of evidence, watch for the woman who surrounds herself with collections of the poets and yet cannot quote a line of them. If valuable in diagnosis, a study of the behaviour of our patients to their books might also be of use in the difficult art of prognosis. In pneumonia it would be tempting to gauge the progress on the capacity to read and enjoy as much as on the pulse or blood-pressure, and is it too fanciful to suppose that we might judge the defervescence of the cerebral powers in G.P.I. quite successfully by the changes in literary taste.

It is easy, then, to see how valuable the book service is, not only to the patients, but also to the Hospital Staff, and we are glad to see it growing from strength to strength. More books, however, are always welcome, for the demands on the Library are remarkable. The Librarian has at times been asked for books on the technical details of aviation, bird life in China, the Diesel engine, and even on the vaulting in the Sistine Chapel. So far she has failed to comply with these requests,

but now that the help of St. Saviour's Public Library has been enrolled it is said that there is no taste which cannot be satisfied.

THE fear of death is the beginning of religion, so Frazer tells us, and the attempt to control life and death by magic the beginning of science. It is on a foundation of magic, then, that medicine as a science was built, and as the successors of the witch doctors it is interesting to see how much of magic remains in everyday and hospital life. Though we do not attempt to revenge ourselves on the examiners who plough us by sticking pins into models of them, yet Guy Fawkes is patriotically burnt every 5th of November. Though mothers no longer think their offspring will be free from misfortune as long as the umbilical cord is safely guarded, yet there must be many locks of hair still treasured in the pages of family bibles

In hospital we wisely humour the superstitions of our patients, so that nothing may prevent recovery. The thirteenth bed is numbered 12*a* so that it will not prejudice the outlook of any patient who may have to use it. We can even understand what we heard the other day, that nurses must not arrange white and red flowers together if this is a superstition which might worry a patient. We can also understand why the quickly vacated bed is left out on the landing for a few hours before it is used by a new patient. This practice, however, has its disadvantages, for we sympathise with the feelings of the houseman who, one morning, saw half his beds outside the ward and did not realise that spring-cleaning was in progress. We find it, however, difficult to understand our behaviour when the fortunately rare calamity of a death in theatres occurs. Here there are no feelings of other patients to consider, yet we quail before the power of contagious magic. Everything that the dead has touched, the very atmosphere where death has been, must be changed. This entails a solemn and exhausting ritual. No more operating here this day lest the spirit of death is passed on to the next patient. Wipe away the taint with disinfectant; seal up the doors and burn away the influence; change everything, even the fluid in which the knives laid must be poured away, lest death flows through to the next operation. Admittedly, a death on the table is a tragedy and a dramatic failure in our efforts to cure, but this neither seems a courageous way of facing it nor is it an act of reverence for the dead. Rather must we rank it with what Frazer calls "contagious magic," such as the once common method of curing warts by a pin stuck into each wart in turn and then thrust into a tree, or the use of a baby's caul as a preventative for drowning.

WE are glad to see that Guy's is represented in the Ideal Home Exhibition, and still more glad to learn that much interest has been roused and a substantial amount of money collected thereby.

WE congratulate the following on their appointment as Clinicals :—

R. J. Drummond
E. D. Falconer
M. J. Lindsey
J. B. C. Murdoch
W. L. Ogle
A. G. Potts

Obituary

WALTER JACK WHEATLEY

IT is with the deepest regret that we record the death of Walter Jack Wheatley on Sunday, April 2nd, 1933, from septicæmia, the result of a piece of tartar striking a previous small injury on his lower lip. His death at such an early age, following a brief illness, was a great shock to his large circle of friends, many of whom were present at the burial at Chislehurst Cemetery on April 5th.

"Jackie" was born on February 7th, 1903, entered Guy's in October, 1926, and qualified L.D.S., R.C.S., in June, 1931. His keenness and exceptional ability resulted in his appointment as Assistant House Surgeon and ultimately full House Surgeon in the Dental Department, where his work was fully appreciated by both dental and medical colleagues. He also held the posts of Student Demonstrator in Dental Histology and in Dental Bacteriology, and won the Fourth Year Prize in Dental Subjects in March, 1931.

Apart from these distinctions he was one of the most popular of men, was a keen supporter of all the Hospital interests, such as the Operatic Society, and gained his half-blue for rowing in 1929.

In the near future he was to have been married.

The sympathy of all of us is extended to his parents and family and to his fiancée in their great bereavement.

C. G. O. N.

Anæsthetics and Pulmonary Disease

A Clinical Lecture by Geoffrey Marshall, Esq., M.D., F.R.C.P.

GENTLEMEN,—Many of you will remember a clinical lecture on pulmonary complications following operations, delivered by Mr. Ogilvie last summer[1]; you were then given an admirable review of the subject, but it is one of such practical importance that I make no apology for discussing it again from a somewhat different view-point.

The analysis of published statistics based on many thousands of operations[2] shows that respiratory complications follow in about 3 per cent. of cases, and that they are most frequent in operations on the upper abdomen in which they amount to 8 per cent. Of the patients developing these complications, one in five dies as a result.

The chief pulmonary complications after operations are massive collapse, bronchitis, bronchopneumonia, pulmonary abscess, lobar pneumonia, infarction of the lungs and pulmonary embolus.

Respiratory disease which becomes manifest shortly after operation is not necessarily caused by the anæsthetic; it may be a natural consequence of the condition which brought the patient under the care of the surgeon, and in many cases it would occur if no anæsthetic were given and no operation performed. The anæsthetist is often blamed unjustly, but even the most uncharitable do not hold him responsible for the production of infarcts in the lungs or for the tragedies of pulmonary embolism. There remain, however, large groups of cases in which post-operative illness and even death are attributable in some degree to the administration of an anæsthetic, to the preparation of the patient for operation, or to the treatment given after operation and before the effects of the anæsthetic agent have passed off.

MASSIVE COLLAPSE

Let us first consider massive collapse or atelectasis, a condition often wrongly diagnosed as pneumonia, and first differentiated by Pasteur.[3] This complication occurs most frequently after operations on the upper abdomen, and the symptoms come on suddenly within 48 hours of the operation, with pleuritic pain, cyanosis, cough, pyrexia and a considerable rise in the pulse and respiration rates. The collapse may affect either or both lungs, but it is usually limited to one lower lobe, more often that of the right side. On examination it is found that this side of the chest is relatively immobile and the heart is displaced towards the collapsed area. Over the latter the percussion note is dull and the breath-sounds are weak and tubular. Radiography shows generalised opacity of the affected part of the lung with a raised and fixed diaphragm and displacement of the mediastinum towards the affected lung. Prompt treatment will usually remedy the condition in a few days, but if the collapse persist it is likely to lead to pulmonary abscess or bronchiectasis, with a considerable mortality.[4] The treatment consists of the inhalation of oxygen mixed with 5 or 7 per cent. of carbon dioxide for ten minutes every two hours, to provoke deep breathing, and laying the patient on the unaffected side and pummelling the chest-wall in order to dislodge viscid secretion in the bronchi.

Bronchoscopic examination has shown a bronchus obstructed by viscid mucus in a number of these cases, and the condition has been produced experimentally by David Band and I. Simson Hall.[5] They found that the introduction of viscid material into the bronchus of an anæsthetised dog did not lead to massive collapse of the lung, but if this procedure were reinforced by the application of a tight bandage round the upper abdomen so as to include the lower ribs or by avulsion of a phrenic nerve, massive collapse followed in every case. Massive collapse is brought about by the formation of viscid bronchial secretion and by the failure of the patient to dislodge this secretion, and you are entitled to ask how much responsibility is attributable to the anæsthetic. The administration of a volatile anæsthetic cannot be solely responsible, because cases have been reported following abdominal operations conducted under spinal anæsthesia, and even under local infiltration. The site of operation is an important factor, the complication is common only in abdominal surgery and occurs more frequently when the upper abdomen is dealt with. In this connection it is interesting to note the effect of operations on the vital capacity during the post-operative period. J. R. Head[6] recorded these figures:—

Site of Operation.	*Vital Capacity Diminished.*
Thoracic wall	14 to 34 per cent.
Lower abdomen	30 to 40 per cent.
Upper abdomen	78 to 88 per cent.

In order to prevent the onset of massive collapse we should avoid rendering the bronchial secretion viscid by too generous injections of atropine before operation. We should avoid depressing the cough

reflex by injections of morphia and other opium derivatives during the first 12 hours after operation, and we should avoid hindering the movements of the lower ribs during the post-operative period by tight abdominal bandages or by allowing our patients to assume a posture which hinders free movement of the diaphragm and chest wall. There is no doubt of the value of the practice of administering carbon dioxide before and after the patient leaves the operating theatre.

BRONCHITIS AND BRONCHO-PNEUMONIA

While the anæsthetist must be held blameless of causing massive collapse, he cannot be acquitted of responsibility in a proportion of the cases of post-operative bronchitis and broncho-pneumonia. The respiratory epithelium is easily damaged by the irritative action of drugs such as ether and ethyl-chloride. Ether bronchitis is a well recognised condition caused by the inhalation of cold ether evaporating on an open mask. Sir Francis Shipway showed nearly 20 years ago that this serious drawback to ether anæsthesia might be avoided if the drug were administered in the form of a warm vapour, and his apparatus has become a part of the equipment of most anæsthetists. In 1917, the published records from a casualty clearing station[7] showing that the incidence of post-operative bronchitis in soldiers with wounds of the abdomen was three times commoner after open ether than after ether given by the Shipway apparatus. The drop-bottle is an unscientific instrument for giving anæsthetics, and it is surely time for it to be discarded. Mr. Steward[8] has stated that in all his experience he could recollect very few cases of post-operative bronchitis or broncho-pneumonia when the patients had been anæsthetised with warm ether vapour and when morphia had been withheld during the first few hours after operation.

The administration of a general anæsthetic may lead to respiratory disease, although the agent employed is not an irritant to the respiratory mucosa. The abolition of the cough reflex under deep anæsthesia facilitates the inhalation of infected material from the mouth and pharynx; moreover, deep anæsthesia implies a poisonous dose of one of the volatile anæsthetics which will lower the patient's resistance to infection for several days after the administration. This deep anæsthesia is usually employed in order to obtain relaxation of the abdominal muscles, and I am not alone in regarding this as a gross abuse of anæsthesia. It is not right to administer a damaging dose of dangerous poison in order to relax the abdominal wall, when this object can be attained efficiently and expeditiously by local infiltration with dilute solutions of novocaine and magnesium sulphate. It is for the surgeons to realise which method conduces to the best interests of their patients. While considering the effect of anæsthetics such as ether and chloroform in lowering the patient's resistance to infection, we must not forget the routine of preparation before operation. Exhaustion is a well-known ætiological factor in lobar and broncho-pneumonia, and we should like our patients to be made as fit as possible before subjecting them to the ordeal of a major operation. It is scarcely credible that only a few years ago it was a general practice to starve and purge all patients within 24 hours of operation, and I am told that there are some conservative institutions where drastic purgatives such as castor oil are still considered an appropriate pre-operative treatment.

PULMONARY ABSCESS

Abscess of the lung occurring after an operation may result from untreated massive collapse, but in most instances it is due to the inhalation of foreign material while the protective reflexes are dulled by anæsthesia. To prevent this complication, in the first instance we should, whenever possible, have the patient's teeth and gums thoroughly overhauled before operation, and, secondly, careful precautions should be taken to guard the entry to the larynx when the patient is unconscious. The simplest method of accomplishing the latter is to keep the head low, and inhalation of gross particles very rarely occurs if the head be kept below the level of the shoulders. In the United States of America a considerable proportion of the cases of pulmonary abscess occur as a sequel to tonsillectomy, while in this country tonsillectomy is an extremely rare cause of lung abscess. What is the reason for this discrepancy? It is because in the United States tonsillectomy is performed with the patient propped up, while in this country the patient is kept flat with the head low.

ANÆSTHESIA FOR PATIENTS WITH PULMONARY DISEASE

When a patient who is known to be suffering from disease of the lungs has to be submitted to operation, special consideration is given to the method of anæsthesia, and there are considerable advantages in local and spinal administrations. In tuberculosis much importance attaches to the stage of the disease. In early cases where the lesion of the lung is inflammatory without cavitation or gross fibrosis, there are no special risks from the anæsthetic, and ordinary inhalation

methods may be employed. In the more chronic and advanced cases with cavitation and fibrosis there is grave risk of infecting fresh areas of the lungs by the aspiration of infected secretions, and the same danger is present in cases of bronchiectasis and non-tuberculous fibrosis. A light anæsthesia with a non-irritating agent is desirable, so that nitrous oxide or ethylene and oxygen are usually employed.

If preliminary medication is required it is best to avoid morphia and the other opium alkaloids, owing to their specific effect in depressing the respiratory centre, and basal narcotics such as avertin or nembutal are preferable. Above all, careful attention must be given to posture while the patient is under the influence of the anæsthetic, and the diseased lung must be, so far as possible, kept undermost in order to minimise the spilling out of infected secretions while the cough reflex is dulled.

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Referred Pain

A Paper read before the Physiological and Physical Societies by H. Harley, Esq.

INTRODUCTION

MR. CHAIRMAN and GENTLEMEN,—Pain is the most widely distributed sense in the body, being present in the skin, the membranes, the extraperitoneal fatty tissue, the cornea, and in the viscera in certain conditions. Pain, moreover, is a symptom which the doctor is constantly called upon to treat, and which is of extreme diagnostic value to him. It is obvious, then, that the doctor must have a thorough knowledge of pain in all its aspects. It is with that aspect of pain which is called "referred" that this paper deals, and it is more concerned with the mechanism of referred pain than with the clinical manifestations.

In its widest sense pain is said to be referred when it is felt in some locality other than that which is the source of stimulation, but in its more restricted sense pain is said to be referred when there is definite evidence that it is projected from a deep-seated point of stimulation to the cerebro-spinal nerves on the surface of the body. Shoulder-tip pain affords a typical example of referred pain.

Referred pain, as the term is generally used, includes not only the pain felt, but also any accompanying tenderness, cutaneous or deep, which may be present. Hilton, in his "Rest and Pain," says that "pain, when not associated with local inflammation, as judged by an increased temperature, must be regarded as due to an exalted sensitiveness of the nerves of that part, and as a pain depending upon a cause situated remotely from the part where it is felt." This author called such pain sympathetic pain, and stressed that it must be caused through a direct nervous connection between the part stimulated and the area of reference.

Pain is a protective mechanism, and as such is most widely, and most perfectly, distributed on the surface of the body. It is well known that pain is accurately localised in the skin in normal circumstances. This accurate localisation seems, partly at any rate, due to experience gained as the result of epicritic pressure sensations, the latter apparently acting as a guide in projection. In areas of skin which have lost the sense of pressure and of temperature, pain is poorly localised.

The phenomenon of referred pain, which accompanies certain cases of visceral disease, has been recognised for some considerable time. Ross, the first worker on this subject, published his celebrated theory of splanchnic and somatic pain, on which later workers based so much of their work.

Ross believed that the pain of visceral disease could be divided into two components, namely, splanchnic pain, which was felt in the viscus itself and which was, therefore, located over the point of stimulation, and somatic pain, which was not felt in the viscus, but was entirely referred to the cutaneous cerebro-spinal nerves which entered at the same segment of the cord as the afferent nerves from the diseased viscus. This pain was not localised at the seat of stimulation, but was felt in the skin at a point more or less distant from it.

Ross was ignorant of the fact that the viscera are insensitive to normal pain-producing stimuli, or he might never have formulated his theory.

Lennander, shortly after Ross's work, first showed that the viscera are insensitive to normal pain-producing stimuli, and concluded that they

were completely devoid of any nerve endings capable of reacting to pain. He concluded that visceral pain must be due either to affection of the parietal peritoneum or of the extra-peritoneal fatty tissue, both of which he believed to be supplied by sensory cerebro-spinal nerves capable of reacting to pain. Or, alternatively, he thought that visceral pain might be due to stretching of the mesenteries with consequent pressure on the nerves related to their bases.

The work of Ross and Lennander was followed by that of Head and Mackenzie, who, working separately, published their results in 1893 and 1894 respectively.

Head accepted the somatic and splanchnic pain of Ross and based his work upon it, but Mackenzie, while he accepted the somatic component, did not accept the splanchnic component of visceral pain. That is, he believed that the latter is entirely of the referred or somatic variety.

Mackenzie noticed, after seeing many cases of visceral disease, that pain felt was not necessarily located in the diseased viscus or even immediately overlying it. He confirmed this by examining two cases of gastric ulcer port-mortem, and showed that the ulcers did not underlie the site of the pain.

It should be remembered, however, that the ulcers may have moved post-mortem, and that Mackenzie had none of our modern methods of examining their position *in vivo*.

The same worker accidently noticed that there was definite cutaneous tenderness in a patient suffering from gall-stone colic. This tempted him to examine other cases of visceral disease, and he discovered that hyperæsthesia was often present. Moreover, he showed that the tenderness might be located in the skin, the subcutaneous tissues, or the muscles. Further, he noticed that hyperæsthesia might be present in the skin and subcutaneous tissues simultaneously, and that when this was so the areas affected did not necessarily correspond. That is the areas of cutaneous and subcutaneous hyperæsthesia were not necessarily co-extensive, or even adjacent, but might be completely dissociated. He showed that the afferent autonomic fibres from the affected viscus, in such a case, entered several segments of the cord. This would explain the dissociated tenderness.

Another phenomenon which Mackenzie found to be associated with visceral disease is that of muscular rigidity.

Thus any theory of referred pain must explain the following facts :—

1. That the viscera are insensitive to normal pain-producing stimuli ; yet—

2. Pathological conditions of the viscera can, and do, lead to pain ; and—

3. The pain may or may not be accompanied by hyperæsthesia and muscular rigidity.

Mackenzie believed that pathological conditions of the viscera lead to powerful impulses passing up their afferent autonomic nerves. These impulses are conducted to the appropriate segment or segments of the cord, and there set up some change in the cord with production of an irritable focus. This irritable focus he believed to aggravate the cutaneous cerebro-spinal nerves entering at the modified segment or segments, with production of pain. He noticed that the cutaneous hyperæsthesia of visceral disease was always in the same position as the pain felt, and concluded that the irritation of the coats of the cutaneous cerebro-spinal nerves which caused pain in their area of distribution also magnified impulses passing up them, thus causing hyperæsthesia.

From his work Mackenzie concluded that the splanchnic and somatic pain of Ross were identical in everything except locality. If the pain was felt over the diseased viscus, Mackenzie believed that Ross thought it was somatic. An illustration will make this clear.

In renal calculus pain may be felt in the lumbar region, curving round the side and descending obliquely across the abdominal wall to the pubic region. This is approximately the course taken by the ureter, so that it would be natural to assume that the pain was splanchnic. On further investigation, however, it is seen that this is the approximate distribution of the 12th dorsal nerve. When this, together with the fact that cutaneous hyperæsthesia may be felt in the same region, is taken into account, it seems highly likely that the pain is referred, and is due to irritation of the 12th dorsal nerve roots. This view is further substantiated when it is seen that the pain and tenderness may spread to the area of supply of the first and second lumbar nerves.

To explain the hyperæsthesia and muscular rigidity of visceral disease Mackenzie formulated his theory of viscerosensory and visceromotor reflexes.

The viscerosensory reflex theory states that powerful impulses pass up the autonomic afferents from a diseased viscus to a given segment of the cord, where they set up an irritable focus by diffusion. This lowers the threshold of that segment to other impulses, such as those from the skin, and in this way hyperæsthesia is produced in the skin supplied by that segment.

In the same way strong impulses reaching the posterior horn of the cord from a diseased viscus, via autonomic afferent fibres, spread to anterior

horn cells of the same segment and produce reflex contraction of the muscles supplied by that segment. This constitutes the visceromotor reflex.

Head, investigating the site of pain in disorders of the stomach, noticed that :—

1. Pain was felt in areas that were more numerous than was supposed ; and—

2. That in many cases the pain was accompanied by cutaneous tenderness which occupied whole tracts of skin with well defined borders.

He then extended his investigations to diseases of the viscera and found that in these also cutaneous tenderness was often present, and that it followed definite lines. After Ross's work it seemed probable that these areas of cutaneous tenderness bore a definite relationship to nerve distribution, and to investigate the truth of this hypothesis Head investigated the distribution of herpes zoster, a skin disease of definite nervous origin. He was surprised to find that the areas of herpetic eruptions coincided accurately with the areas of cutaneous tenderness of visceral disease. On further investigation it became obvious that these areas of cutaneous tenderness and of herpetic eruptions corresponded to segmental distribution, and not to the distribution of peripheral nerves. Thus on the thorax these areas cross several intercostal spaces, and do not follow any one.

On investigating the tender areas more closely Head discovered that :—

1. They did not overlap.

2. They have maximal points where the tenderness is most severe, is first to appear, and is last to disappear.

3. When pain is present without tenderness, it is felt in the position where the maximal tenderness would be if tenderness were present.

4. Cutaneous reflexes are increased in these areas.

5. They are similar to the areas of herpetic eruptions in that they have the same maxima, the same distribution, and in that they do not overlap.

Mackenzie did not, with Head, believe that there was no overlapping of these fields. He noticed that their borders were not sharply defined, and that the tenderness was more marked at the centre than at the periphery of any area. He considered this to be due to overlapping. Moreover, he noticed that in certain cases the tenderness spread into adjacent areas of skin not supplied by neighbouring nerve roots. He also noticed that in a few cases of herpes zoster the eruptions crossed the middle line.

Mackenzie thus disagreed with the exact limits of Head's fields, and was unable to fit the eruptions of herpes zoster into any one of them.

After careful study Head drew the following inferences regarding referred pain :—

1. Referred pain follows the lines of spinal segmentation rather than that of peripheral nerves.

2. It tends to form bands around the body, so that the pain of visceral disease is often as severe in the back as on the front of the abdomen.

3. It is often associated with cutaneous tenderness.

He does not appear to have recognised the presence of muscular rigidity in visceral disease.

Head formulated his theory as to the mechanism of referred pain largely on an analogy with the phenomenon of allocheiria. In this condition a certain area of skin is partially analgesic. If this area of skin be stimulated with a nociceptive stimulus the pain produced is not located at the seat of stimulation, but is referred to the symmetrically opposite area, or, if that be analgesic, to the area immediately above or below that stimulated. This is an example of the law of projection, which states that when a stimulus is applied to an area of low sensibility in close central connection with one of high sensibility, the pain is felt, not in the area of low sensibility, but in that of high sensibility.

On stimulating a viscus, which is insensitive to pain-producing stimuli, with such a stimulus, the pain is not felt in the insensitive viscus, but is projected to the highly sensitive skin, and to that area of skin which is supplied by the same segment of the cord as the viscus, and which is, therefore, in close central connection with it.

That this analogy is fallacious has recently been pointed out by Morley, who reminds us that the viscera are not merely poorly sensitive to normal pain-producing stimuli, but are completely insensitive to them.

To explain the referred pain of visceral disease, Head advanced what I may call his "psychic theory." He believed that the localisation of pain is a psychical and not a physical phenomenon, and that it is, therefore, related to association. Suppose a skin point to be pricked, then the stimulus may ascend in the cord in a single nerve fibre without diffusing at all, but in the grey matter of the cerebral cortex—that is, in consciousness—there will be diffusion over a wide area of the psychic field. There will, however, be a maximal point representing the psychical unit corresponding to the point stimulated. In normal cases the disturbance produced at the maximal point is so much greater than that produced in the diffusion area that the latter is driven under the threshold of consciousness and is not appreciated. The stimulus is, therefore, correctly localised.

In cases of analgesia he supposed that the psychical diminution of the disturbance produced at the maximal point in the psychic area causes a large relative increase in the disturbance produced in the diffusion area. This relative increase produced in the disturbance at the diffusion area may be so great that that produced at the original maximal area is driven under the threshold of consciousness and is not appreciated. In consequence of this the pain is not located at the point stimulated, but in some area of skin connected centrally to the diffusion area, that is to say in close central connection with it. It is reasonable to suppose that contiguous areas of skin, or symmetrically opposite ones, will be in closest central connection with one another. This theory offers an explanation to the phenomenon of allocheiria.

In the case of the viscera the only adequate stimulus is that of tension. These organs are completely insensitive to all normal forms of sensibility, and they have never developed the power of localisation owing to their inaccessibility to touch. It has already been stated that epicritic pressure sensations act as an aid to the projection of pain in the skin. It is not strange, then, that pain is not usually localised in the viscera themselves, but that it is referred to the highly sensitive skin which has the same segmental supply as the affected viscus, and is, therefore, in close central connection with that viscus.

Afferent impressions from the viscera travel up afferent sympathetic fibres into the cord, where they come into close relationship with cutaneous cerebro-spinal fibres entering the same segment. The sensory and localising powers of the skin are vastly in excess of those of the viscera, so that by a psychical error of judgment the diffusion area is accepted in consciousness. In consequence, the pain felt is referred to that part of the skin having the same segmental supply as the viscus which is the seat of stimulation.

Head thus believed that the phenomena of referred pain, excluding cutaneous tenderness, etc., in allocheiria and visceral disease are identical, and that both depend on the law of projection.

Head offered a similar explanation for cutaneous tenderness to that of Mackenzie. He maintained that abnormal impulses pass up from a diseased viscus and set up a disturbance in that segment of the cord at which they enter. This disturbance, he supposed, profoundly modified normal impulses entering that segment from other parts of the body. In normal circumstances a normal stimulus entering the cord ascends to the brain, where it sets up a normal disturbance. When such a stimulus enters a modified segment as described above, it becomes itself modified, and consequently produces an abnormal disturbance in the brain.

In certain cases these impulses will be modified in such a manner that they become greatly exaggerated. In this way non-painful stimuli applied to the skin may reach the brain as painful ones.

Thus, according to Head, the referred pain of visceral disease is a function of the cerebral cortex, but the cutaneous tenderness is a function of the cord, whereas on Mackenzie's theories they are both functions of the cord or nerve roots. Also, whereas Head credited both splanchnic and somatic pain, Mackenzie maintained that there was no such thing as splanchnic pain.

Until very recently the theories of Head, and especially of Mackenzie, have been unchallenged. Let us see what they explain.

Much of the classical work on referred pain has been done on heart disease. That there is such a phenomenon as referred pain is well illustrated by many cases of angina pectoris. In this condition pain is usually felt in the pre-cordial region, so that with Walshe and Balfour we might suppose the heart to become painful. But if this were the case the heart movements might be expected to produce fluctuations in the degree of pain. They do not do so. Moreover, the pain often radiates into the left arm and down the ulnar side of this to the wrist or little finger. It is evident that the arm bears no topographical relationship to the heart, and the pain is obviously referred. The pain may or may not be accompanied by cutaneous hyperæsthesia.

Abnormal impulses are conveyed from the heart to the first three dorsal segments of the cord by sympathetic afferents. The cerebro-spinal nerves from these segments supply the upper part of the chest and the arm. The areas in which pain and hyperæsthesia are present are, therefore, in accordance with those which would be expected from a consideration of the viscerosensory reflex. Pain is also occasionally felt in that part of the neck supplied by the second, third and fourth cervical nerves. This is due to impulses passing up the vagus from the heart. It is an interesting, but unexplained, fact that impulses passing up the vagus may lead to pain which is referred to the area supplied by the above nerves.

There may be hyperæsthesia of the sterno-mastoid and trapezius. Mackenzie explains this as due to irritation of the accessory nerve by abnormal impulses passing up the vagus. It will be remembered that the two nerves are intimately related in the jugular foramen.

Many other examples could be given which afford evidence in favour of Mackenzie's theory. One especially worthy of notice is the projection of pain to the testis in cases of renal colic. The sympathetic supply to the ureter is partly derived from the first lumbar segment. The tunica vaginalis is also supplied by this segment, but by a cerebro-spinal nerve, the genitofemoral, capable of reacting to pain. Thus the pain of renal colic is referred to the tunica vaginalis of the testis. This is in perfect accord with the viscerosensory reflex, and the evidence for this is even more striking when it is observed that the pain is never accompanied by hyperæsthesia of the scrotum, which is supplied by the sacral cord.

Thus there is much evidence to support the above theories. The question as to whether or not true splanchnic pain exists was definitely settled in the affirmative by Hurst, of this hospital, who, in his " Goulstonian Lectures " delivered in 1911, showed that the viscera are sensitive to distension of their muscular walls. He showed that sudden distension of the musculature of the œsophagus, stomach or colon gives rise to pain.

The hollow viscera, then, as was previously believed, are not completely insensitive, but are sensitive to an adequate stimulus, namely, that of tension. Any condition which leads to excessive or sudden tension in the walls of hollow viscera must inevitably lead to pain.

Hurst believes that the pain of intestinal colic is purely splanchnic, and that it is produced by excessive peristalsis, which causes an increase of tension in the intestinal wall.

The above author, then, agrees with Ross and Head about the presence of splanchnic pain, and at the same time accepts the viscerosensory and visceromotor reflexes of Mackenzie.

The fundamental factor underlying all the theories of referred pain which have been described is that there is an overflow of abnormal impulses from the autonomic afferent fibres of the diseased viscus to the cutaneous cerebro-spinal nerves. That is to say, there is an irradiation from the autonomic to the cerebro-spinal nervous system.

The criterion as to the accuracy of the above theories is, therefore, the presence or absence of such a transference. Unfortunately, this is not an easy fact to determine. It is not always easy to differentiate cerebro-spinal from autonomic fibres, and nothing is known of the course of the latter after they enter the posterior horns of the cord.

Morley, investigating the nerve supply of the abdomen, used two physiological criteria :—

1. The nature of the adequate stimulus.
2. The nature of the sensation produced.

For cerebro-spinal fibres tactile, thermal, stretching, etc., are adequate stimuli, but for autonomic fibres tension alone is an adequate stimulus.

The pain produced by stimulating an autonomic fibre is dull, deeply seated, spasmodic and vaguely localised. That produced by stimulating a cerebro spinal fibre is sharp, continuous, superficial and accurately localised.

Using these criteria, this author concluded that the gastro-intestinal tract and its offsets, together with the uterus, fallopian tubes and gall-bladder, have an autonomic supply, but that the parietal peritoneum has a cerebro-spinal supply. He believes also that the mesenteries of the intestine, transverse colon and pelvic colon are supplied by sensory cerebro-spinal nerves to within one or two inches of their visceral attachments.

Morley, who has recently written a book entitled " Abdominal Pain," states that there is no irradiation from the autonomic to the cerebro-spinal nervous system, but only from one cerebro-spinal nerve, or branch of a cerebro-spinal nerve, to another.

With Hurst he accepts the presence of true visceral pain. This he believes to be related to the autonomic nervous system only, and to be produced by stimulation of the afferent visceral autonomic fibres by increased tension in the visceral musculature. He believes that this has the qualities of autonomic pain already described, and asserts that it is never accompanied by hyperalgesia, cutaneous or deep, or by muscular rigidity.

In contradistinction to this splanchnic pain, he asserts that referred pain is entirely confined to the cerebro-spinal nervous system, and that it has no connection with the autonomic system whatever.

This author thinks that there is never any element of referred pain in visceral disease until the parietal peritoneum or pleura, which is precisely analogous to it, is affected, and that there is then a radiation down the afferent cerebro-spinal nerves supplying the membrane to those supplying the skin.

On this theory cutaneous hyperæsthesia is explained as due to a peritoneo-cutaneous radiation, and muscular as due to a peritoneo-muscular reflex. Both these reflexes are, of course, confined to the cerebro-spinal nervous system. A peritoneo-muscular reflex was recognised by Mackenzie, for muscular rigidity is characteristic of peritonitis.

Morley states that a given area of peritoneum (or pleura), the muscles overlying it, and the skin overlying the muscles are all supplied by the same cerebro-spinal nerve. Thus, if an area of parietal peritoneum is stimulated, the muscles overlying it

become spastic, and the pain is referred to the overlying skin.

Although the parietal peritoneum is supplied by cerebro-spinal nerves, this author believes that pain is never located in it, but is always referred to the skin. Thus the pain of pleurisy must be radiated to the skin, for—

1. Deep pressure over a painful patch of pleurisy, even if made over a rib, causes pain.

2. The rigidity of the chest wall excludes the possibility of the pressure being transmitted to the parietal pleura.

Also any stimulation of the diaphragmatic pleura or peritoneum causes pain which is felt in the shoulder-tip area, and therefore remote from the part stimulated.

The diaphragm is supplied by sensory cerebro-spinal nerves through the phrenic nerve, which arises from the third, fourth and fifth cervical segments. The shoulder-tip pain is felt in the area supplied by the third and fourth cervical nerves, which may be regarded as the sensory branches of the phrenic.

One might ask why the pain is not felt in the diaphragm itself. Morley explains this by reference to the development of the diaphragm which develops in the neck. At an early period of intra-uterine life it migrates caudally and is displaced still further by the growth of the lungs. Thus the sensory reactions of the diaphragm recapitulate its developmental history.

The work of Morley on gastric and duodenal ulcer would appear to afford evidence against the viscerosensory reflex of Mackenzie. This observer, working on cases of proved gastric and duodenal ulcer which presented a localised area of deep tenderness, showed, with the aid of the fluorescent screen, that the area of deep tenderness was always accurately localised over the site of the ulcer and followed the latter in its movements.

If the deep tenderness is produced by a viscero-sensory reflex, the tender area should not move with the ulcer, since the same autonomic fibres are stimulated regardless of the position of the ulcer.

Hurst also did experiments which are in agreement with those of Morley, but the two observers interpretated the results differently.

Hurst believed that the pain produced on pressure is a visceral one, and assumed that the chronic ulceration endowed the subserous layer of the visceral peritoneum with the property of tenderness. Morley, however, disproved this by palpating ulcers after opening the abdomen under local anæsthesia. He was unable to produce any sensation of pain, and believes that the pain is produced by pressing the parietal peritoneum on to the ulcer. This would certainly explain the localisation of pain over the ulcer, and the movement of the former with the latter.

These cases may be accompanied by cutaneous tenderness which may or may not be in the same position as the area of deep tenderness. Morley's theory does not seem to explain this.

It is an interesting fact that anæsthetising the skin of the shoulder-tip area relieves shoulder-tip pain. This is very difficult to explain. The irradiation from the phrenic to the supraclavicular nerves takes place central to the point of application of the anæsthetic; therefore, why is the pain abolished?

SUMMARY

In conclusion, it may be said that two types of pain accompany visceral disease, namely, splanchnic and somatic, and that of the several theories which have been advanced to explain the latter, none of them explains all the facts satisfactorily.

For example, the viscerosensory theory of Mackenzie does not explain the movement of the area of deep tenderness with that of a gastric or duodenal ulcer already described, or its accurate localisation over the ulcer.

Morley explains that the parietal peritoneum is supplied by sensory cerebro-spinal nerves capable of reacting to pain, yet pain is never felt in the peritoneum, but is always projected to the skin. To quote this author: "The peritoneum is endowed with an accurate localisation of painful stimuli by a process of irradiation to the skin." This would appear to be a contradiction of terms.

Notice

Nineties Club

The Annual Dinner of the above Club will take place at The Royal Adelaide Galleries, 13, King William Street, Strand, W.C., on Wednesday, May 3rd, 1933, at 7.30 p.m., with P. W. L. Camps, Esq., F.R.C.S., in the Chair, preceded by a Meeting at 7 p.m. Price of Dinner, 12*s.* 6*d.*, exclusive of wine.

If it is your intention to be present, kindly notify the undersigned at your earliest possible convenience.

E. B. DOWSETT,

118, Gloucester Place,

Portman Square, W.1.

Nomads v. The Junior Staff

IT was a beautiful afternoon when the "Nomads" and the Junior Staff met for their annual fight for the Cup. One by one the members of the teams appeared, each one more amusing than the last: short and fat, tall and thin, young and —— fairly young. After many preparations, including tying on of boots with bandages, smoothing of lovely black hair and so on, the two teams, the Nomads in Guy's colours and the Staff in white, led by the Referee, the divine "George," in a too-utterly devastating blazer, trooped off to have their photographs taken.

Only 25 minutes late and, after many arguments as to which side should have the ball, the Nomads kicked off. The Staff started well, the handsome John Batchelor making a valiant dash down the field; this was followed by some master tackling on the part of the veteran player, John Symonds. About ten minutes after play had started Clegg did some good work and sent Pantin over for a try for the Nomads; Pantin failed to convert. Here let it be pointed out that one of the rules of this game was that whoever scored a try had to attempt to convert it. There followed some very weird rugger, scrums into which the ball never had a chance of getting, tackling by means of tickling and slapping faces, but here and there one caught glimpses of real talent—Hogbin, looking more like an old carthorse than ever, galloping round the field chased by four or five Nomads with expressions of grim determination. Giesen and Conybeare made a fine dash down the field, Giesen going over for the Staff, but he just failed to convert; meanwhile the other players seemed to think it was time for a rest, and lay about in various stages of exhaustion. A few minutes later Roscoe Clarke went over for the Staff, his kick reached the goal, but for some reason failed to rise from the ground. Windsor Lewis darted off, but was stopped by some good tackling by Sharp. John Symonds covered a good deal of ground, having shaken his leg free, which somehow seemed to have got tangled up. Here the Referee thought they needed a rest and blew his whistle for half-time, the score being—Staff, 6 points; Nomads, 3 points.

After a long rest, having renewed their strength with cigarettes and "shandy," the latter being brought out in large enamel jugs, they returned to the fight, one eminent player still smoking, and very soon Alexander scored a try for the Nomads, which he sadly failed to convert (too much shandy!). Another try quickly followed by Routley for the Nomads, but he also failed with his kick. So fierce had the game now become that one by one the men had to be pulled by their legs out of a so-called scrum. After this, Windsor Lewis easily scored a try for the Staff, everyone being too tired to attempt to stop him, which with a fine kick he converted. This was followed by a fine run down the field by Sharp, who narrowly missed scoring. Next followed what must have been a try, but for the brilliant and, no doubt, well thought-out piece of tackling by Mr. Reading. After a good attempt by Blaikley, Alexander and Robin broke away and Robin went over for the Nomads—he failed to convert. Just after this one of the Nomads retired from the field, minus the seat of his trousers, and the referee, thinking things had gone far enough, blew his whistle for time, the Nomads winning by 12 points (4 tries) to 11 points (2 tries and 1 converted try)—a very close game owing to the fairness and generosity of the referee.

It is impossible to pick out the heroes of the day; they all stuck to it admirably, but most noticeable was the energy and enthusiasm of the veteran player, John Symonds, and the really stunning piece of tackling by the "little registrar." Although not the most brilliant, it was undoubtedly the most enjoyable and amusing game of the season, both for the players and the few privileged onlookers.

M. E. R.

The Physical Society

A MEETING of the Physical Society was held in the Massage Department and Smoking Room on 30th March, Mr. Ratcliff being in the Chair.

Mr. DAVIES described a case of nephritis, and went into lurid details of his patient's home conditions. Mr. Finer suggested an acute nephritis in a kidney damaged by arterial disease, and he was supported by Mr. M. J. McArdle, who attributed his fits to his high blood pressure and discussed the condition of "hypertensive encephalopathy." Dr. E. T. Conybeare suggested

that some of the patient's œdema was nutritional, but Mr. Davies disagreed. The Secretary, Mr. Bruce Pearson, asked what was the difference between arterio-sclerosis, essential hyperpieses and malignant hypertension, and he was answered by Mr. McArdle. Dr. Conybeare still favoured a nutritional factor in the œdema, but Mr. Todd assured the meeting that the patient's diet had been adequate.

Mr. REID described a case of mediastinal tumour in a small girl. He remarked on the cautious, non-commital diagnosis of the Medical X-Ray Department, and the breezy, optimistic position adopted by the deep X-ray therapists. In answer to Mr. B. McArdle he said that some deep X-rays had been given, and the girl was a little worse. Mr. Todd suggested Hodgkin's disease, and was apologetically supported by the Chairman, but the idea was condemned for a variety of reasons by Messrs. Conybeare and M. J. McArdle. The Secretary and Mr. Simpson Smith suggested a primary renal tumour, and said that they had felt a large mass in the right kidney region. Mr. Reid admitted that he had felt something in the loin, but did not think it was very big. He said that he would do a lot more investigations.

Mr. HENRY showed a man with an ulcerated area on his eyebrow, and an appearance of unusual lumps in his right lung, found on X-raying him. Mr. Darlow favoured a double pathology of rodent ulcer and secondary carcinoma from an unknown primary. Mr. Weston said that carcinomata of the lung did not grow just there. The Secretary supported Mr. Darlow and disagreed with Mr. Weston. Mr. Finer said that the rodent ulcer had undergone epitheliomatous change. Mr. Simpson Smith asked for details about the ulcer and the Bowen's dermatitis which the patient had had. Mr. Knox asked what Bowen's dermatitis was, and Mr. Todd attributed it to a Mr. Bowen. Mr. Simpson Smith diagnosed syphilis of the lung on the strength of the tattoo marks, but admitted that he had not heard that the Wassermann reaction was negative. Mr. Alexander said that slow-growing epitheliomata did not metastasise, and Mr. Davies confessed to having removed one at Minor Ops. Dr. Conybeare said that the growth in the chest could not be in a bronchus, and was, therefore, secondary. Mr. Todd described the chest lesion first as an artefact, and later as a red herring, and the discussion terminated in confusion.

Mr. DARLOW produced a very healthy baby girl of some six months, who had been afflicted with a weakness of one arm, general febrile disturbance, many lumbar punctures, and rather fewer diagnoses. Mr. M. J. McArdle asked whether there had ever been signs of meningitis, the Chairman asked whether the ears had been examined, and Mr. Todd inquired whether she had ever had mumps, chicken pox or measles. Mr. Darlow answered all these questions in the negative. The Secretary diagnosed encephalomyelitis of children, and Dr. Conybeare said that he thought she had a virus infection. Mr. Reid said that the percentage of glucose in the cerebrospinal fluid would settle the question of virus or bacterial origin, but this had not been estimated. Mr. Robin suggested congenital syphilis, but no one was moved to comment. The Secretary suggested that, as the baby was quite well really, no more lumbar punctures should be done. The meeting had by this time given the baby a good prognosis, and so discussed her no further.

Mr. B. MCARDLE gave an account of the case of a small girl who had had an eye removed three years ago for a tumour of vague pathology, and now had attacks of opisthotonus, weakness of the right arm and greatly increased intracranial pressure. He expressed some uncertainty about the exact nature of the tumour. Mr. Todd said that tumours of the retina and the suprarenal were practically the same, and that he did not consider there was any noteworthy difference between various embryonic nervous tissues. Mr. M. J. McArdle, in a shocked voice, reproved him for such heresy, and Mr. B. McArdle explained about primitive nerve cells. The meeting was unable to improve on Mr. B. McArdle's information about the rarer tumours of the central nervous system. It may here be mentioned that at the autopsy a few days later a tumour mass was found in the cerebellum.

Mr. KILPATRICK described the clinical features associated with an X-ray plate of a frontal tuberculoma, and the Chairman performed a similar service for an X-ray of a pancreatic cyst. No discussion of these exhibits was invited, and the meeting closed.

Correspondence

Rheumatic Fever and the Chordæ Tendineæ

To the Editor of the GAZETTE

SIR,—As a student I was taught with a wealth of expressiveness by such teachers as John Fawcett that, amongst other results of rheumatic fever, the chordæ tendineæ became thickened, shortened, and fused. This "fusion" always bothered me as a student, and even for some years afterwards. I could not visualise how two surfaces covered by a smooth endothelium and separated by fluid blood could possibly fuse. I presented my problem to many people, some of them well-known pathologists, but received no enlightenment. One professor even suggested that I should work at the subject with a view to writing a long and learned thesis upon it.

Actually it dawned on me whilst gardening that the problem does not really exist; that I had, in fact, invented it out of my own ignorance. Since none of the books offer any explanation of the subject—most of them avoid mentioning it, probably deliberately—I offer you this.

For a short time I thought that perhaps the chordæ did not really fuse at all, but a very brief examination of post-mortem specimens soon settled this point. Figure 1, from my own collection, shows a mitral valve viewed from below; obviously there are fewer chords than normal, and those that exist are much thickened.

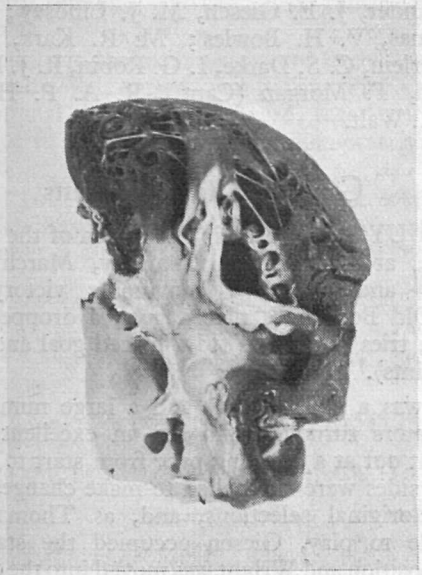

Fig. 1

My difficulty arose from that misunderstanding of the effects of acute rheumatic fever that must be common to most students for a varying time. I thought of rheumatic fever merely as a row of tiny vegetations near the free edge of the mitral valve. There was nothing else necessarily to be seen, and the misconception was natural enough. I was, of course, quite prepared to say that the patient had a myocarditis which was responsible for killing him, but such a lesion conveyed no clear mental picture. Actually I soon learnt that the mitral vegetations were not "rheumatic fever," but were only incidental to the disease and had a purely physical basis. Such vegetations do not necessarily occur at all, and they may occur elsewhere. The endocardium may be, and frequently is, damaged over a very large area, and thrombi will form over any spots where the damage is sufficiently severe. Figure 2 shows "rheumatic

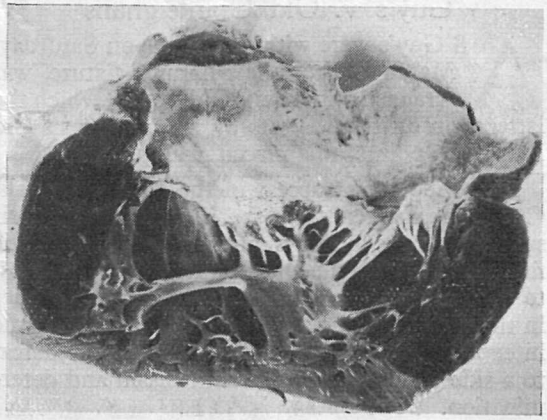

Fig. 2

vegetations" actually on the chordæ tendineæ in a case of recurrent rheumatic fever. The specimen is one that I found unregarded in the museum attached to the post-mortem room at Guy's, and borrowed for a few days. If one makes sections of the chords one can occasionally find definite evidence of inflammatory changes in them involving the endocardial layer in acute rheumatism. Carey Coombes has published a truly beautiful photograph of an Aschoff node in a chord.

Half of my difficulty has then been removed; there is not an unaltered smooth endothelial covering to the chords. It remains, then, only to explain the apposition.

Two little-emphasised anatomical points are helpful here. In the first place the mitral valve

is not made up of merely two flaps; the main flaps are joined by shorter small fibrous sheets. When, as a result of rheumatic fever, scarring and contraction occur, these small flaps are also involved in the process, and the result is rather as if a purse-string suture were being drawn tight around the free edge of the valve. The second point is that the chordæ are not all attached to the free edge of the valve; a large number of them are attached to the vertricular surface, some almost at the fixed margin. A contraction of the mitral valve as visualised will, therefore, bring many of the chords into apposition, and if their surface endothelium be damaged they can and will fuse.

Thus my problem has ceased to exist, being shown to be but an invention of mine own too little understanding—as are all human problems.

Yours, etc.,
" INNOMINATE."

W. J. Wheatley

To the Editor of the GAZETTE

SIR,—Will you please convey the sincerest thanks of my family and myself to all those who expressed their sympathy and sent flowers.

Yours, etc.,
WALTER J. WHEATLEY.

" Westdene,"
Canford Cliffs Road,
Bournemouth.

Sport

Rugby

Guy's v. Old Cranleighans

AS Guy's were without a game on Saturday, March 18th, a last-minute fixture was arranged with the " Old Boys," which the latter won on their merits by 2 placed goals and 2 tries (16 points) to a placed goal (5 points).

Following their success in the Inter-Hospitals' Cup, one expected to see the Hospital repeat their success over the old Boys, but they played lethargic football and, with the Old Cranleighans " all out " to wipe off the reverse which they received earlier in the season, it was apparent, especially after the interval, that Guy's would have to admit defeat to a side which was full of enthusiasm and determination.

Both teams lacked the services of several of their regular players, but the old Boys found such excellent deputies that it must have been a source of gratification to them to know that they have such substitutes for next season.

The Cranleighan forwards worked like Trojans and, in the second half, they were definitely superior both in the set scrums and the line-outs, but to some extent this may be attributed to the fact that T. Morgan was concussed immediately after the interval as the result of a nasty kick over the eye, which made him more or less a passenger.

The first half was fairly evenly contested, and early on the Old Boys scored an unconverted try through H. H. Lambert. They hung on to this lead until near the interval, when Bowles sent out a smart pass from a scrum near the 25, and, after a combined movement between Alexander, Hogbin and Darke, the ball was passed to Walt, who scored near the posts for Hogbin to convert.

However, the Old Boys quickly retaliated, and regained the lead when R. R. Reeve got past Lindsey and sent in G. C. Reeves for a try, which Hacking converted.

After the interval the Old Boys went further ahead as the result of another try by G. C. Reeves, and later on C. Lambert finished off an excellent bout of passing between Hindley and Reeves by registering a try behind the posts, which Hacking again converted.

Team.—W. B. Clegg; G. E. Walker, P. C. Alexander, J. E. Giesen, M. J. Lindsey; I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, R. J. Drummond, T. Morgan (Capt.), R. A. P. Hogbin, M. L. Walt.

Guy's v. Old Alleynians

GUY'S played their last match of the season at Dulwich on Saturday, March 25th, and gained a convincing victory over the Old Boys by a placed goal, a dropped goal and 3 tries (18 points) to a placed goal and a try (8 points).

It was a glorious day and a large number of spectators turned up to see an excellent game fought out at a cracking pace from start to finish. Both sides were compelled to make changes from their original selections, and, as Thomas was unable to play, Giesen occupied the stand-off half position and Wright was moved into the centre. The Hospital also lacked the assistance of Hogbin,

and his services were missed especially when it came to place-kicking.

However, the re-organised side played such inspiring football that they dominated the game from the start. Bowles had an exceptionally good day, and gave one of his best performances of the season; both he and Giesen combined beautifully, and Alexander was a continual source of worry to the Old Boys by his determined thrusts through the centre.

The pack again played a great game, and with Heberlein hooking exceedingly well they controlled the scrums throughout. Their work in the loose was exceptionally good, and Darke, Walt and Kark were continually in the limelight.

It was very fitting that T. Morgan, the Guy's Captain, should score the last try of the match and thus crown what has been a very successful season.

The Selection Committee are to be congratulated on their efforts in building up such a promising side; they have had a difficult task, especially in the early part of the season when they were hampered through injuries.

In this particular game the team played inspiring football, and, but for some excellent tackling by the Old Boys, they might have run up a heavy score. Very early in the game Guy's took the lead when Giesen broke through and sent in Wright; the latter had to run quite 30 yards to score a try near the posts, but Alexander failed to convert.

Soon afterwards Guy's increased their lead when, following an attack on the left wing, the ball was sent to Giesen, who steadied himself before dropping a good goal.

For a time the exchanges were fairly even, but eventually Walt got away on his own and, showing exceptional speed for a forward, raced round the defence to score a good try, which was not converted.

Just before the interval the Old Boys reduced the deficit when Davies caught Guy's napping and, after a splendid run, crossed near the posts for Dixon to convert. This success encouraged the home side to greater efforts after the interval, and, following a good bout of passing, Godfrey forced his way over in the corner for an unconverted try.

With only two points separating the sides Guy's improved considerably. With the forwards obtaining the ball fairly regularly, the backs gave a delightful exhibition, and a glorious passing movement between Giesen, Alexander, Wright and Johnson ended in the latter crossing in the corner for another splendid try.

After pressing for some time, Guy's made repeated efforts to cross, but were held up on the line, where several scrums were formed. Eventually, Morgan obtained possession in the loose and threw himself over between the posts for Alexander to add the extra goal points.

Near the end Guy's should have had another try when Giesen cut through brilliantly, but his final pass, when five yards from the line, was deemed to be forward.

Team.—W. B. Clegg; A. G. Johnson, C. G. Wright, P. C. Alexander, G. E. Walker; V. H. Bowles, J. E. Giesen; C. S. Darke, A. G. Heberlein, M. R. Kark, I. G. Robin, M. Walt, T. Morgan (Capt.), D. M. Leeming, A. R. Clarke.

Association

Junior Hospital Cup Final

Guy's v. St. Thomas's

THIS match was played at Honor Oak Park on Saturday, March 18th, and resulted in a win for Guy's for the fourth year in succession.

The day was fine and there was a strong wind blowing straight up the ground from the Pavilion end. Cosin lost the toss and Guy's started by Kendrick kicking off against sun and wind.

Guy's attacked first, but a good shot from Cosin was well saved by the goalkeeper. Guy's continued to press, but St. Thomas's scored first, after Rogers, the goalkeeper, had left the field with a twisted ankle.

A few minutes later Musgrove broke away on the right and centred for Kendrick to equalise.

Still attacking, Guy's missed several chances of scoring, but shortly before half-time Musgrove gave Guy's the lead.

Half-time score: Guy's, 2; St. Thomas's, 1.

In the second half play became very one-sided and three more goals were soon added by Marshall, Cosin and Keay.

Fifteen minutes before time St. Thomas's scored their second goal from an isolated breakaway.

Guy's then scored their last goal by Cosin taking the ball up the field from the halfway line and passing to Kendrick, who scored with a fast rising shot.

The game was characterised throughout by the good combination of the forwards and the steady defence, which allowed very little to pass.

Team.—F. Rogers; R. Lawson, R. J. G. Hayton-Williams; J. Ogston, J. Morley, E. Sampson; E. Musgrove, J. C. Keay, W. C. Kendrick, L. Cosin, L. E. Marshall.

Fencing

Guy's v. Masks

THE last match of the season was fought on Wednesday, March 29th, when the visitors were a team of the Masks. The match was remarkable for its fluctuating fortunes, Guy's being eventual winners by 11 defeats to 16.

The foil play, though not very distinguished, was keenly contested, and resulted in an easy win for the Hospital, only one bout going to the Masks. Paterson never looked like losing a fight, and was hardly extended. Morris displayed his customary vigour, and we had the unusual spectacle of sparks at a foil match. Parfitt was good, and when he has improved his footwork will be much better.

The duelling was of much higher standard, and at this weapon the Masks were definitely superior, winning by 7—2. The fencing of "Longfellow," in particular, was delightful to watch. Morris and Lawrence both fought well, but were beaten by opponents who fought better. Paterson fenced with great patience, and was unlucky not to win at least one bout.

Irish, making probably his last appearance for the team, was in excellent form with the sabre, and it is sad to think that those flashing "1-2-3's" may be seen no more in the Gym. His delightful footwork was an object-lesson in a much neglected art. Morris was also, in spite of lack of practice, in very good form, and dealt with his opponents without much difficulty. Paterson spent most of his time in pretty but useless feints, and would be better advised to try a few simple, but whole-hearted, attacks.

Scores : Foil—Paterson and Morris, 0 defeats; Parfitt, 1 defeat. Epée—Morris and Lawrence, 2 defeats; Paterson, 3 defeats. Sabre—Morris, 0 defeats; Irish, 1 defeat; Paterson, 2 defeats.

Hospital Information, etc.

Pass List

CAMBRIDGE UNIVERSITY.
March, 1933.
M.B.
M. A. Rushton.

LONDON UNIVERSITY.
March, 1933.

SECOND EXAMINATION FOR MEDICAL DEGREES.

PART I.

E. R. Bowes
L. H. Cooper
A. R. Darlow
P. M. Davies
J. S. W. Dryland
S. G. Goonchorn
D. Graham-Brown
S. D. Hankey
H. M. R. Knight
A. R. Leask
M. Levy
D. C. Light
B. G. A. Lilwall
A. E. Loden
H. A. McDonald
D. H. Mackay
B. Maddison
J. R. Miles
A. D. Milne
W. B. Parker
A. C. Ricks
A. A. Shein
H. Stoll
L. C. Thomson
M. R. Woods
R. O. Yerbury

PART II.

F. A. Bleaden
C. S. Darke
J. E. Elliott
D. F. Freebody
H. R. S. Harley
B. W. Hunt
S. Jackson
H. M. Kelsey
F. L. E. Musgrove
W. M. Philip
E. B. Rowe
E. Sayle
J. B. Spearman
C. W. H. van der Post
G. N. Wright

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
March, 1933.
Forensic Medicine.

C. W. Cross
J. B. Frumin
E. Pugh Jones

Guy's Hospital Ladies' Association

Contributions, Clothing, Goods or Provisions towards the Guy's Jumble Sale—April 29th—will be received with gratitude. Address: Jumble Sale, Matron's Office, Guy's Hospital.

Appointment

N. S. Plummer, M.B., M.R.C.P., Medical Registrar, Charing Cross Hospital.

Changes of Address

A. E. Sawday, M.B., B.S., F.R.C.S. (Edin.), 59, Queen Anne Street, Cavendish Square, W.1 (*Welbeck* 4942), and "Hillside," Crouch End Hill, N.8 (*Mountview* 2279).

N. S. Plummer, M.B., M.R.C.P., Charing Cross Hospital, Strand, W.C.2.

M. A. Arafa, M.R.C.P., 28, Tanta Street, Heliopolis, Cairo.

Papers by Guy's Men

M. A. Rushton. On the fine contour lines of the enamel of milk teeth. *Dent. Rec.*, 1933, liii, 170.

T. B. Layton. Influenza. *Clin. J.*, 1933, lxii, 133.

R. C. Brock. Post-operative venous thrombosis and the platelet count. *Lancet*, 1933, i, 688.

Deaths

STEWART.—On 26th March, 1933, Rebecca Charlotte (née Daniell, late Sister Cornelius), wife of Dr. W. G. G. Stewart, of Ware, Herts.

WHEATLEY.—On Sunday, 2nd April, 1933, at Connaught House, 1, Southend Road, Beckenham, Kent, Walter Jack Wheatley, L.D.S., R.C.S. (Eng.).

EDS. { M. J. McA.
C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

THAT of making many books there is no end is peculiarly true of Medicine, and certainly to the student much study is a weariness of the flesh. Every year the publishers dazzle our eyes and bewilder our choice with an increasing number of books. Each one seems more attractively produced and more deserving of our interest than the last. Each new author persuades us in his preface that it is for our particular need that he has so nobly catered. Each title points out another weak spot in our equipment as medical men. With bewilderment and a strong feeling of inferiority we stand before the shelves at the Medical Library, wondering where to begin. We admire all, covet most, read some and buy none. Nowhere is the experience of our seniors more needed, but nowhere is advice so seldom offered. We are, therefore, very grateful to Dr. Ryle for his essay on the use and abuse of books in this special book number.

▭

IN a recent letter to *The Times* Mr. H. G. Wells appealed to his fellow diabetics to get together and use their common interest to good purpose—that of fostering research in their own disease. He did not wish, however, to pursue his idea to the extent of founding a Diabetic Club. This we feel is a pity. The idea is pleasing and could be expanded. Those of a like disorder are usually of like constitution, face the same problems and, above all, enjoy the same grouses. What tighter bond could unite folk into a happy community than this? We feel that a Diabetic or Ulcer Club would have more in common than the Garrick, Athenæum or the Army and Navy, and certainly more than the National Liberal Club. Imagine the Diabetic Dinner, where ether and syringes are handed round with the cocktails! After the usual toasts of the King, Banting and Best have been honoured, the conversation soon settles down to common interests such as boils, cataracts and cooking recipes, and, with the Club Song of "Injectio ad Absurdum" on their lips, the happy members disperse to face their final Benedict with equanimity. Let us look in at the Podagra, an old-established family club where those of a gouty constitution enjoy their port fortified by the Club's equally fine cellar of Atophan. There we find an old member describing to an admiring group of juniors the magnificent chalk stones that the General had produced before his stroke. What more exciting spectacle can one wish to see than the billiard tournament at the Parkinsonian or what more joyful than the Arthritics Annual Dance? Perhaps even the day may come when the annual cricket match between the Cirrhotics and Luetics at Lords' will rival the Eton and Harrow match as a fashion parade.

▭

OUR readers know well that the Dances in the Nurses' Home are always good entertainment; indeed, so attractive that they are often overcrowded. The next Dance to be held there is on May 12th, and is organised by the Guy's Hospital Nurses' League, but it should be noted that at this there is to be no overcrowding, and that to be one of the lucky holders of a ticket it is well to apply early. The proceeds go to complete the Nurses' League gift of a Scholarship to the International Nurses' Course held at Bedford College and the College of Nursing. Other London hospitals have each contributed a scholarship, but Guy's has still £125 to find, and it is the purpose of this Dance to raise this amount. Tickets are 10*s.* 6*d.*; full details will be found on another page.

We know that preparations for the catering have been thorough and complete; refreshments will be provided to suit *every* palate, and we are assured that the usual stimulants to a successful dance will be found at the refreshment buffet.

At the end of the Rugger season come the Athletic Sports, and preparations are now in full swing for this year's meeting, which is to take place at Honor Oak Park on Saturday, May 13th, at 2.30 p.m. The entry lists posted in the Colonnade are much larger than usual, and, what is more, there seems to be a good sprinkling of new talent. These auguries are good, and it seems likely that the Committee's wish for a good meeting will be fulfilled. If we are to be well represented at the Inter-Hospital Sports, support on the ground is essential for producing that enthusiasm that begets success. Admission is free to members of the Clubs' Union, and on payment of a shilling to non-members. If at the Sports you should feel jealous of the success of others, there are 100 yards' handicap races for both sexes to appeal to you. Tea may be obtained in the Pavilion afterwards.

The following appointments have been made :—

House Physicians—
To Dr. Hurst—Mr. M. J. F. McArdle.
To Dr. Mutch—Mr. H. A. Treble.

House Surgeons—
To Mr. Rowlands—Mr. H. J. B. Atkins.
To Mr. Hughes—Mr. H. G. N. Cooper.

Obstetric Residents—
To Mr. Chapple—Mr. E. H. de B. Crowther-Smith.
To Mr. McNair and Mr. Cook—Mr. R. G. Reid.

Out-Patient Officers—
Mr. C. A. Clarke. Mr. C. H. Fagge.
Mr. F. J. Curtis. Mr. R. V. Payne.

Assistant House Surgeons—
To Mr. Bromley—Mr. F. R. Kilpatrick.
To Mr. Slesinger—Mr. B. McArdle.
To Mr. Ogilvie—Mr. W. G. Gill.
To Mr. Doherty—Mr. J. C. Colbeck.
To Mr. Massie—Mr. L. O'N. Knox.

House Surgeon in the Ear, Nose and Throat Dept.—
To Mr. Mollison—Mr. R. A. P. Hogbin.

House Physician in the Children's Department—
Mr. R. A. Ratcliff.

House Physician in the Neurological and Dermatological Department—
Mr. W. H. Owles.

The *Gazette* is sorry to lose Mr. E. Sharp, who has recently retired from the Editorship after several months' splendid service. He was a wise counsellor and had the knack of collecting "copy" when none seemed to be on tap. We wish him every luck in his future career.

With the change over of the Municipal hospitals from the control of the Boards of Guardians into that of the L.C.C., the opportunity has been taken to give the students of the London teaching hospitals the chance of visiting the Municipal ones and of being taught in them. There was always a certain type of case, such as the later stages of some nervous diseases, which could be seen only in the infirmaries, but, nowadays, more and more of the good clinical material which used to come to the general hospitals is going there also. To visit them, and to have cases demonstrated on, is therefore extremely valuable. It has been arranged that each general hospital shall have one infirmary with which it can correspond. Guy's have chosen St. Alfege's Hospital, Greenwich, which has a number of Guy's men on the Staff already and is also within easy access. The facilities are intended mainly for those attached to the firm of the particular demonstrator, but where this is under 12 or 15, applications for the remaining places can be lodged at the Medical School office.

The following demonstrations have been arranged :—

May—Tuesday, May 2nd, at 2.30 p.m.—Dr. L. J. Witts.
Thursday, May 4th, at 2.30 p.m.—Dr. A. H. Douthwaite.
Thursday, May 11th, at 2.30 p.m.—Dr. A. H. Douthwaite.
Friday, May 12th, at 2.30 p.m.—Dr. A. C. Hampson.
Tuesday, May 16th, at 2.30 p.m.—Dr. C. P. Symonds.
Thursday, May 18th, at 2.30 p.m.—Dr. R. D. Gillespie.

June—Friday, June 2nd, at 2 p.m.—Mr. G. F. Gibberd.
Tuesday, June 13th, at 2.30 p.m.—Mr. C. Lambrinudi.
Friday, June 16th, at 2.30 p.m.—Dr. J. J. Conybeare.
Tuesday, June 20th, at 4 p.m.—Dr. H. C. Cameron.
Tuesday, June 27th, at 2.30 p.m.—Mr. W. D. Doherty.

July—Tuesday, July 4th, at 2.30 p.m.—Mr. E. C. Hughes.
Thursday, July 13th, at 2.30 p.m.—Mr. W. H. Ogilvie.

In addition to the above, Mr. Davies-Colley will give a Demonstration at St. Olave's Hospital on Monday, May 8th, at 10.30 a.m.

On the Choice and Use of Books

OF the part which books play or should play in the advancement of medical learning books themselves could be written. Their influence might be discussed in its broadest relationships or more particularly, as here, in respect of the proper equipment of the student mind. We should, in either case, find general agreement as to their indispensability, but in the pursuit of a profession and a study so practical as Medicine the most "bookish" among us must needs confess that books are generally less valuable as a source of knowledge than experience garnered at first hand. In Osler's phrase, "to study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all." Medical books are indeed the charts, the pilots or the shipmates of our adventures after knowledge, and as such they should chiefly be used.

There are times when the chill shadow of the examination hall compels the best of us to attempt a heavy daily dose of the larger text-books, to the end (as we fondly hope) that we may be found wanting in nothing which the ingenuity of the examiner might contrive for our undoing. Probably there are few of us who have consistently shunned the subtle temptation of the shorter cram-books in those last hours of pre-examinational anxiety-neurosis, but do we not in saner moments of accomplishment look back upon our employment of these "aids" with a twinge of shame and generally with a realisation that they were not commendable works or the cause of our success? Plodding through text-books and mnemonic exercises are not, in fact, to be dignified as "reading" or "study," both of which are pursuits undertaken for intellectual pleasure and profit. Not until the medical student, through natural bent or timely direction or the relief of mind which follows qualification, becomes for the first time a student of medicine (so to remain for the rest of his days), does he enter upon the full enjoyment of his special literature.

In considering within the compass of a brief essay "the choice and use" of medical books, let us seek how we may acquire and employ them as friends and collaborators and forget that at one time or another in our lives we have submitted to them as task-masters. We must clearly allow for wide variations in the matter of taste in friendships (one contemporary of mine swore that he preferred Cunningham's "Anatomy" to any novel and carried it always in his greatcoat pocket), but certain hints with regard to good company may not be amiss.

As we would divide our friends, so may we divide our books into categories. There are the necessary daily companions of our youthful period, often with pleasant and useful contacts to be renewed from time to time in later years. Among these we would include the recognised text-books, our Taylor's or Price's "Medicine," their compeers in surgery and obstetrics, MacCallum's "Pathology," and one of the better handbooks on "Clinical Methods." There are also a few seniors in this group of friends to whom we turn, with the respect due to years, for words of wisdom, fine descriptions and the fruits of old experience. Fagge's "Principles and Practice," Trousseau's "Clinique Médicale," and the earlier editions of "Osler" are very worthy of a place on our shelves and will never be put "on the shelf" in the more vulgar sense. We shall discover other more rare and intimate friendships, both with young and old, to be won by degrees from among the collected lectures, the volumes which deal with special subjects, and the monographs. "The true worker does not want text-books; he looks to journal literature and monographs . . ." says Osler. Glancing at random through my book-case, I recognise with affection as members of this class Paget's "Clinical Lectures and Essays," Jonathan Hutchinson's "Pedigree of Disease," Gower's "Border-land of Epilepsy," Wilks' "Diseases of the Nervous System, Mackenzie's "Diseases of the Heart" and "Symptoms and their Interpretation," Cabot's "Facts on the Heart," Pavlov's "Conditioned Reflexes," Hurst's "Sensibility of the Alimentary Canal," Carlson's "Hunger in Health and Disease," Moynihan's "Duodenal Ulcer," and Still's "Diseases of Children." The list might be much extended, but a special place must be reserved for one book which every Guy's man's library should boast. I refer to Hilton's "Rest and Pain," a volume replete with wisdom and observation most genuine, of sustained interest throughout and a constant inspiration to the thoughtful correlation of clinical, anatomical and physiological inquiry. First published in 1863, it was revised four times and has passed through no less than ten re-printings. G. Bell & Sons publish it at a very modest figure, but it is worth its weight in gold.

There is a further group of worthies, old in time and ripe with honour, chiefly to be found in the libraries and private hands, but still available

with search and patience from the secondhand booksellers. In this group Heberden's "Commentaries on the History and Cure of Diseases" is an old intimate of mine. Among the well-known publications of the New Sydenham Society are to be found Addison's "Works," Bright's "Clinical Memoirs on Abdominal Tumours," and a "Collection of the Published Writings of Sir William Gull," to give the Guy's men pride of place, and others of enduring merit like Stokes' "Diseases of the Chest."

For the opulent the "first edition" habit may open the door to still rarer friendships, but in these hard times and generally in youth the door must remain closed.

Lastly we come to a circle of friends who dwell in the border-lands of medicine. I mean the books concerned with medical history, biography, literature and philosophy. Michael Foster's "History of Physiology" and, of recent date, Fulton's "Selected Readings in the History of Physiology," Osler's "Alabama Student" and "Aequanimitas," Wilks and Bettany's "History of Guy's Hospital" and Wilks' "Biographical Reminiscences" are of this number, and we should add a few biographies such as Stephen Paget's "John Hunter" and D'Arcy Power's "William Harvey."

Harvey's "Circulation of the Blood" and Sir Thomas Browne's "Religio Medici," of the same epoch and rich value but vastly different subject and character, can both be obtained in the pocket Everyman edition, and no student of medicine or lover of English literature should be without them. The works of Hippocrates are now published by the Loeb Classical Library. Without the Oath, the Aphorisms, and the clinical case-reports, no man's medical education is quite complete. Neither "old books" nor "the nucleus of a medical library" was intended as the subject of this essay, but I could not refrain from enumerating a few of the more shining or classic sources of knowledge and delight. Who chooses friendships from among these and their like will inevitably become a wiser and a happier man.

But we have yet to consider the selection of our new, young friends from that constant procession of books which issues daily from the press, and I dare not think what the publishers will say of the *Gazette* if it sets out to encourage its readers to go on the prowl round the secondhand bookstalls with their minds shut to the blandishments of the new reviews. By all means read the reviews assiduously, but remember that medical literature to-day, like every other branch of literature, is over-burdened with bad books, and neither time nor money are so much at the disposal of the student of medicine that he can afford to be lavish with either unless there be promise of a good return. Therefore be occasional and wary in your purchases, pay more attention to the repute of authors than the attraction of titles, and let your teachers and your senior colleagues guide you in your expenditure. I would not for a moment have it thought that no good books are to be found in new covers. Each year I add to my store, and each year I have to resist many temptations. For the student and the busy man in practice series such as Churchill's "Recent Advances" have a definite value; new text-books and new editions of text-books must often be carefully considered on their merits; a few important monographs must at once be bought; but, although it be hoary advice, you should still be cautious in the acceptance of new friends.

The best way to use text-books is clearly in close conjunction with clinical work. Each disease seen and discussed at the bedside or in Out-patients, whether the patient be yours or a fellow clerk's, should be studied again as soon as possible with "the book of the words," and how much more refreshing this method is than the aimless perusal of chapters often having but little bearing on anything you have yet seen or heard. If this simple plan is followed it is surprising what large tracts of medicine can be covered in six months, and visual memory, constantly co-operating with sound descriptions, will gradually plant in your minds those images upon which future diagnostic achievement so largely depends. When two descriptions, an old and a new one, or a clinical and a pathological one, are available in important diseases such as pneumonia or typhoid fever, by all means study both. The modern text-books may be more complete, more attentive to the details of accessory investigation, but few of them can compete with Fagge and Osler in the matter of clinical portraiture. When interest is especially stirred in a particular case or an intriguing pathology then is the time to discover from your teachers whether there is any important monograph or symposium to be borrowed from the library or, perhaps, purchased and treasured as a private investment.

The "classics" and "old friends" in each of our categories are rather for the bedside, the week-end and the morning train. They are the disciples of faith and pride and thought in medicine; they help to cultivate that philosophic outlook, and sometimes that philosophic doubt, without which no student of medicine can hope to become a balanced physician.

Books, whether valuable or otherwise by common computation, are greatly to be cared for. There is abiding pleasure in the gradual acquisition of

a good library, whether large or small, and in keeping it well arranged. Many of the books on your shelves will be read once only, or possibly never, from cover to cover, for the doctor's life is all too full, but again and again they will be found handy for reference or refreshment, and by degrees nonentities become acquaintances, acquaintances friends, and friends intimates. The very backs of them take on a friendly look when you come home tired, and, if only your wife can persuade the spring-cleaning fiends of the sanctity of your shelves, you will come to know just where to stretch your hand for one or other of the good companions of your youth, maturity and advancing years.

Finally, with books as with money, "neither a borrower nor a lender be," or, if you fail (with most of us) to obey this precept to the letter, adopt the simple system of keeping a small note-book in which you may enter, "Borrowed by Jones on such-and-such a date, my Everyman's Edition of Harvey's 'Circulation,'" or "Borrowed from Smith on April 1st, So-and-so's 'Aids to Medicine.'" With this expedient guilt may easily be brought to book, your colleagues will respect you, and the gaps in your shelves will not long remain unfilled. J. A. R.

Guy's Free Lending Library for Patients

By The Head Librarian

IT is not two years since the beginning of a new service for the patients was announced in the *Guy's Hospital Gazette*, and the Editor has asked me to give some account of its progress since.

Begun on a modest scale with 750 books, the Lending Library for Patients has now on its shelves a collection of over 5,000 books selected from several hundred more—all the generous gifts of friends of Guy's and of patients themselves. It is interesting that just because these books are all gifts, there are amongst them unusual ones, which will appeal to a patient who likes something better than a thriller and does not know what to suggest himself.

"Sidelights on Punishment" was eagerly read by an ex-policeman, while a steeplejack, after asking for a technical book on the construction of the Sistine Chapel, told the librarian, after she had supplied him with six different semi-technical books on architecture, that he did not mind now how long "they" kept him at Guy's as long as he could finish these books.

A volume of essays was so much enjoyed by a patient that at his request it was afterwards lent to one of Guy's eminent doctors: "Please see that Dr. R—— gets it."

Another patient, a young Cockney, stoutly declared that he would read nothing but Edgar Wallace, and assumed scornfully that, of course, the librarian had no new ones for him. The librarian seemed to share his enthusiasm for this author and managed to feed him for several consecutive weeks at the rate of six or more a week. She achieved her end when, at the end of the fourth weekly visit, she was told that if ever she gave him an Edgar Wallace again "he would do her in." Now was her opportunity. She suggested mildly that there were other types of thrillers—accounts of adventures by people who had lived them, and left him Smythe's "Katchenjunga Expedition" and V. Sackville-West's "Journey to Teheran." The week after she was told: "That's the stuff; you can give me some more." During the rest of his stay he read all the travel books the librarian was able to find him.

These are a few examples of the types of patients the librarian supplies with books.

She, like the doctor, has the patient at her mercy. She arrives close to his bedside with her well-arranged trolley freshly stocked for each round with carefully selected books and magazines to suit all tastes, and hopes that he will choose for himself or give her an indication of his likes and dislikes. If he does not do so, the real skill of the librarian, her tact and quick intuition of the patient's make-up have now to make themselves felt and guide her in the choice of the book that will suit his particular taste. At the same time there must be no suggestion that she imposes her taste on the patient. She may sometimes be of direct use to him. It has often happened that a sensitive, nervous woman, dreading the operation to come, has relaxed at the suggestion of the librarian that perhaps a love story begun straightaway now would help to "take her mind off" the ordeal to come and would be something to look forward to when she was recovering from the operation.

A good librarian has a personal knowledge of the books she lends and learns by experience what type of book to recommend, and a few mistakes (such as an indignant patient returning "The Constant Nymph" with an expression of the utmost contempt) are exceedingly wholesome.

The Americans have invented a solemn word for this new work amongst the patients—they call it "bibliotherapy."

Although the librarians at Guy's have been at work for so short a time, they claim that where they are able to supply the patient with exactly the book that he wants they have done more than just give him pleasure. If the patient stays on they help, unconsciously, towards his recovery by the fact they have been in contact with his mind. They never talk about illness or about his health. They themselves come into the wards once a week, giving an impression of health and vitality, dressed in bright clothes—not in a uniform.

When the trolley appears in the ward the patient feels that here is something for them not connected with illness and disease, but with life and health such as they knew it before their health gave way.

It is hard work; a good librarian gives out the best of herself all the time, but it is most absorbing and satisfying. And the results at Guy's are beyond all expectation, where a steady average of between 600 and 700 books a week is kept up.

At Guy's the training of a new voluntary librarian is taken very seriously. She comes on probation for at least three weeks, learns the routine work of the library itself, gets acquainted with the stock, and is not allowed to start on her own till she has been round the wards with the head librarian herself and with other assistant librarians.

The Treatment of Certain Functional Menstrual Disorders with Urine of Pregnancy

By P. M. F. Bishop, Esq.

FUNCTIONAL menstrual disorders are those which are due to disturbance of the normal endocrine regulation of the sex cycle. Such conditions may be divided into the following three groups: (1) Amenorrhœa, oligomenorrhœa or hypomenorrhœa; (2) Dysmenorrhœa, *Mittelschmerz*; (3) Menorrhagia and metrorrhagia.

I.—AMENORRHŒA

1. *Primary Ovarian Amenorrhœa.*—Women of this type are usually delicate, slender, emotional and visceroptotic. In some a laparotomy scar pathetically pays tribute to useless abdominal surgery. The ovaries fail to secrete a sufficient quantity of œstrin to maintain the normal development of the uterine endometrium. Since the product of ovarian and pituitary activity is roughly a constant, the ovarian hypo-function leads to increased secretion of anterior pituitary sex hormone, an excess of which is demonstrable in the circulating blood. Unless the endometrial atrophy is too far advanced the menstrual flow may be re-established by injections of œstrin.

2. "*Low-threshold*" *or* "*Non-utilisation*" *Amenorrhœa.*—In this small group the blood œstrin level is low. Normally œstrin may be demonstrated in the blood at certain phases of the menstrual cycle, whereas in these cases its presence cannot be shown by any method at present available, though its concentration in the urine is abnormally high. It is, therefore, supposed that there exists a low renal threshold for œstrin so that it fails to attain a sufficient concentration in the blood to stimulate the endometrium, or that the endometrium is unable to utilise the diminished quantity of œstrin, which is consequently excreted into the urine *in toto*. This condition is frequently associated with atresia of the follicles or the presence of follicular cysts. Treatment should, therefore, be directed towards improving the circulation to the ovary, and this cannot be accomplished by organo-therapy. Prolonged diathermy treatment and vigorous bimanual massage of the ovaries have been suggested!

3. *Pituitary Amenorrhœa.*—This forms a large group of the functional amenorrhœas. The patients usually display some of the stigmata of hypopituitarism. They are under-sized and fat, the obesity being confined to the trunk, while the wrists, hands, ankles and feet appear to be comparatively slender. There is a male distribution of the pubic hair, frequently associated with hypertrichosis. They are placid and somnolent, and may complain of headaches of frontal distribution. The amenorrhœa is primarily due to deficiency of the anterior pituitary sex hormone, which controls the internal secretions of the ovary and these, in turn, regulate the activity of the uterine endometrium. Neither anterior pituitary hormone nor œstrin can be demonstrated in the circulating blood. Thus it is reasonable to suppose that relief may be obtained in these cases from anterior pituitary hormone therapy.

Since this article is concerned only with menstrual disturbances depending on disorders of the pituitary and ovary, no other type of functional amenorrhœa will be described.

II.—DYSMENORRHŒA AND *MITTELSCHMERZ*

1. *Dysmenorrhœa.*—The well-known type of dysmenorrhœa which is associated with an "infantile" uterus and functional sterility is an indication of either primary or secondary ovarian deficiency, the latter presumably being due to pituitary hypo-function. Experience has shown that in the vast majority of cases the ovary itself is primarily at fault, and that pituitary deficiency seldom gives rise to dysmenorrhœa. In support of this statement it is found that treatment of this condition with œstrin is far more successful than the injection of anterior pituitary substances.

2. *Mittelschmerz.*—The pain in this condition corresponds very accurately with the calculated period of ovulation, namely, between the 11th and 14th day after the beginning of the last menstrual period, and it is supposed by some authorities that the condition is due to the increased tension of the follicle immediately preceding ovulation causing pain in unduly sensitive women. It is thought that in some cases the increased tension may result from a deficiency of anterior pituitary hormone, and that injection of anterior pituitary substances may accelerate ovulation, which will then occur before the follicular tension has become too high. Mazer and Goldstein[1] report a case which was successfully treated by a month's course of injections of 200 rat units of anterior pituitary sex hormone on alternate days.

III.—MENORRHAGIA AND METRORRHAGIA

1. *Puberty Bleeding; Menorrhagia and Metrorrhagia of Maturity.*—These two conditions have the same ætiology, namely, deficiency of anterior pituitary sex hormone, so that the stimulus supplied to the ovary is insufficient to cause ovulation. The maturing follicles, therefore, continue to enlarge without rupturing, with the formation of follicular cysts. Owing to the failure of ovulation functional corpora lutea are absent, so that progestin, the specific hormone of the corpus luteum, is not secreted. Consequently the uterine endometrium develops under the sole and continued influence of œstrin elaborated by the cystic follicles. The normal development of the endometrium leading up to menstruation depends on the orderly sequence of the two phases of the ovarian cycle. During the first, follicular or preovulatory phase, the maturing Graafian follicles secrete œstrin into the blood stream. In response to this secretion, the mucosa of the endometrium thickens, the submucosa becomes differentiated into three layers, and the mucosal glands become tubular, elongated and packed close together. The vascularity of the endometrium is considerably increased. During the second, luteal or post-ovulatory phase of the ovarian cycle, proliferation of the granulosa cells of the ruptured follicle and the ingrowth of theca lutein cells lead to the formation of the corpus luteum. This body continues the secretion of œstrin, but also adds to the circulation its own specific hormone, progestin. Under the combined influence of œstrin and progestin the premenstrual development of the endometrium occurs. The uterine glands become tortuous and distended with secretion, the endometrial stroma cells come very closely to resemble decidual cells, while the submucosa increases considerably in thickness. Finally, the superficial layers of the endometrium are shed and the menstrual flow begins. Experiments have shown that continuous treatment of monkeys with œstrin can produce uterine hæmorrhage—what the Americans describe as "œstruation"—and microscopical examination of the endometrium of animals so treated shows an exactly similar type of endometrial hyperplasia as is found in these cases of puberty and maturity bleeding. Here there is an increase in stromal and epithelial growth and marked disparity in the size of the tubular glands, many of which are large and cystic and closely set together, producing the so-called "Swiss-cheese" pattern (Novak)[2]. The greatly increased vascularity is responsible for the metrorrhagia.

From a consideration of these facts it is evident (1) that the unopposed action of œstrin is responsible for this condition. Furthermore, overdosage with œstrin will actually cause uterine hæmorrhage. Œstrin is, therefore, *absolutely contra-indicated* in any form of excessive uterine hæmorrhage. (2) Treatment of the condition with progestin or corpus luteum extract, even if reliable products of this substance were on the market, would be unsatisfactory, in that it would be difficult to guess the exact dose which would produce a premenstrual type of endometrium. Moreover, even the right dose would be merely of temporary benefit, since progestin does not cause ovulation. (3) Injection of products containing anterior pituitary hormone is the only logical line of treatment, and has been found by experience to be almost a specific in the treatment of functional uterine bleeding of puberty and maturity.

2. *Preclimacteric Uterine Bleeding.*—Here the ætiology is entirely different. The primary factor is the decline of ovarian function due to the approaching menopause. There is a compensatory over-secretion of the follicle-maturing factor of the anterior pituitary principle, evidence of which can frequently be found both in the blood and in

the urine at this time. Thus, neither œstrin nor anterior pituitary hormone are indicated in the treatment of this condition. Acceleration of the onset of the menopause by means of radium or deep X-ray therapy is the most logical procedure.

Since this article is primarily concerned with the treatment of menstrual disorders with urine of pregnancy, which contains the anterior pituitary principle, it will be as well to repeat that the only conditions for which such treatment is well established are pituitary amenorrhœa and the excessive hæmorrhage of puberty and maturity.

THE AVAILABLE PREPARATIONS OF ANTERIOR PITUITARY PRINCIPLE

The two standardised preparations which are easily available in this country are " Prolan " and " Antuitrin-S," both of which are obtained from urine of pregnancy.

Prolan (Bayer).—Powder. 100 rat units per ampoule. 10*s*. for 5 ampoules. (7*s*. 3*d*. special hospital discount.)

Antuitrin-S (Parke, Davis).—Liquid. 100 rat units per c.c. in 10-c.c. vials. 22*s*. 6*d*. per 10-c.c. vial. (15*s*. special hospital discount.)

DOSAGE

1. *Pituitary Amenorrhœa.*—The object is to stimulate the slowly maturing follicle into increased activity. This is best accomplished with small doses spread over a long period, 20-25 rat units on alternate days for three to six weeks. A second course is advisable after an interval of one or two months.

2. *Functional Menorrhagia.*—Here the object is to convert a persistent Graafian follicle into a functional corpus luteum, which will secrete progestin as well as œstrin. Much larger doses are, therefore, required, 100-200 rat units daily being recommended by some authorities. The treatment should be continued until the next normal menstrual flow occurs.

It will readily be seen that the treatment of these conditions is one of considerable expense, and, until gynæcologists have been able to satisfy themselves of its efficacy, they may well hesitate to prescribe it, especially in hospital practice.

THE ANTERIOR PITUITARY HORMONE CONTENT OF URINE OF PREGNANCY

During pregnancy the circulation is flooded by a principle partly derived from the anterior lobe of the pituitary, and partly, probably mainly, from the placenta and its precursor, the chorion-epithelium. A considerable amount of this principle is secreted, and appears in the urine in great concentration. Œstrin is likewise secreted in large quantities and also appears in the urine. Figure 1 indicates the excretion of sex hormones in the urine during pregnancy.

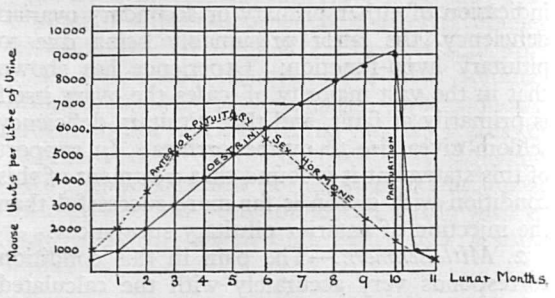

Fig. 1

Anterior pituitary sex hormone and œstrin content of urine throughout pregnancy, in mouse units. One mouse unit is roughly equal to one rat unit of anterior pituitary hormone, whereas 5 M.U. equal 1 R.U. of œstrin. (After Mazer and Goldstein.)

These facts were made use of by Zamkoff[3] in the treatment of menstrual disorders. In pituitary amenorrhœa both the anterior pituitary hormone and œstrin may be efficacious. Urine may, therefore, be obtained from a woman at about the sixth month of pregnancy, sterilised by filtration through a Berkefeld filter and injected intramuscularly in small doses. In menorrhagia, œstrin is contra-indicated. The urine of mid-pregnancy is, therefore, deprived of its œstrin content by means of ether extraction (œstrin being soluble in ether). Treatment with ether also removes certain toxic substances from the urine. After the ether layer has been siphoned off, the urine is sterilised by filtration as described above. These preparations of urine of pregnancy were named " Gravidan " by Zamkoff.

By the use of " gravidan " the two disadvantages of the proprietary preparations of anterior pituitary hormone are overcome, namely, (1) the instability of the product—fresh urine of pregnancy is easily obtained, and gravidan should not be employed later than one week after its preparation; both " Prolan " and " Antuitrin-S " are subject to considerable deterioration on standing. (2) The high cost of the product; the only expense involved in the preparation of gravidan is the use of ether.

THE TECHNIQUE OF THE PREPARATION AND USE OF GRAVIDAN

I.—For Menorrhagia

1. Collect a pint of fresh urine of pregnancy (fifth month).

2. Filter 4 ounces (about 120 c.c.) through a Berkefeld filter, into a sterile filter flask. This is to permit saturation of the filter cylinder with the hormone, and the filtrate should, therefore, be discarded.

3. 100 c.c. of urine are shaken with an equal volume of pure ether for 10 minutes and allowed to stand for half an hour.

4. The supernatant ether is siphoned off.

5. The ether-treated urine is filtered.

6. The filtrate is poured into test tubes, 25 c.c. into each tube.

7. The tubes are plugged with sterile rubber corks and sealed with paraffin.

8. The tubes are kept in a refrigerator until required for use. No tube should be kept longer than one week.

9. The content of a test tube is injected intramuscularly on alternate days until the next normal period occurs.

II.—For Amenorroea

1. Collect 200 c.c. of fresh urine of pregnancy (fifth month).

2. Filter 4 ounces to saturate the filter cylinder and discard the filtrate.

3. Filter the remainder.

4. The filtrate is poured into test tubes, 5 c.c. being placed in each tube.

5. The tubes are plugged, sealed and stored in the refrigerator. They are discarded if not used within a week.

6. 5 c.c. are injected every other day, a course of 10-20 injections being given. A second course, after an interval of a month or two, may be necessary.

REFERENCES

1. Mazer and Goldstein, 1932.—Clinical Endocrinology of the Female. W. B. Saunders, Philadelphia and London. (The author is indebted to this book for most of the information given in this article.)
2. Novak, 1926.—*Journ. Amer. Med. Assoc.*, lxxxvi, 1106.
3. Zamkoff, 1929.—*Klin. Med.* (Moscow), vii, 892.

The Nurses' Concert

NO longer need we feel of the Nurses that "full many a flower is born to blush unseen and waste its sweetness on the desert air." Now that their Concert is happily become an annual hospital event the cloistered talent is brought to light, and this year no less than four of the nine classic Muses were evoked in aid of the Cosmo Bonsor Memorial Fund.

Of Music first. In a very full programme it is difficult to mention individual items. We particularly admired the smooth singing of John Ireland's "Aubade" and the naive duets of Nurses Arthurton and Bromwich. Nurse Thomas was well up to the high standard of singing we expect of her, and she was aided by the excellent accompaniments of Nurse Sambrook. Nurse Lomax again earned an encore with her violin.

Of the Dance second. In "Morning," Nurse Sambrook's choreography was well constructed and dignified, but even her own dancing could not overcome the absence of *décor* and orchestra. More suited to the general programme were the two dances by Nurses Blake and Pitt. They were equally successful in looking Dresden and dancing Coster.

Of Comedy next. The two short plays were very good, and their success was due largely to Nurse Longfield, whose finished acting overcame a tendency for the action to hang at times. Nurse Griffin's performance in the Mrs. Buggins mode was excellent.

Lastly, Comedy and Rhetoric were combined in the most successful item in the programme, "Trial by Jury." In this play an unfortunate, but, we assume, characteristic houseman is charged with the crime of stealing a cake of soap from the Doctor's table in the ward. The contents of the Jury Box, modelled, we presume, from the benches of Out-Patients' Hall, were a grand and impressive sight. The rhetoric of the two counsels, the pompousness of their clerks, the futility of the Judge, and the magnificence of the policeman were all excellently stressed, and the witnesses were as amusing as their evidence was conflicting. Nurse Longfield, as Mrs. Borough, told a sad story of her treatment at Guy's—a first-rate performance. Throughout good team-work was noticeable, and was proof of the efficiency of Sister Florence's stage management and production. We are told that this play was written by the individual actors taking part, and we therefore may assume that the wit that produced it is common to all nurses.

We had long realised that the Nursing Staff had a brand of humour of its own—malicious, satirical and cruelly to the point—and we were always thankful that they had no opportunity of showing it publicly. This was cowardly, but natural. Now we have seen it we must bow to its edge and truth, and humbly ask for more.

We hope that on the lines of this last play the Nurses' entertainment will become less general and more topical in its appeal, and in future years become a sisterly reply and ally to the Residents' Play.

C. G. B.

A Guy's Dinner at Hong Kong

(We are very grateful to Dr. P. F. S. Court, a former Editor, for his account of this convivial evening and we hope that other old Guy's men will follow his example and send us news about their doings.—EDS.)

"IT is a befitting thing that those well disposed shall gather to the purpose of eating delectable viands and drinking companionable liquors, thereby to kindle the joss-stick that diffuses the goodly fragrance of fellowship."

These words are attributed to Confucius—with what certainty is yet unproven. Much said by that philosopher has been distorted and much added by minor soothsayers. The truth of the saying, however, will be disputed by few, and accordingly Guy's men in Hong Kong gathered at the Gloucester Building with much pleasure on February 15th. We were a representative gathering: a senior Government Medical Officer, a Naval Surgeon Captain, Professor of Surgery and Physiology, a one-time full-back of the Guy's rugger team (who was put in charge of the milk can for the evening), and others from the Navy, general practice and Colonial Service.

Before the two toasts of the evening were proposed—"The King," by Dr. J. T. Smalley, and "Guy's Hospital," by Surgeon-Captain Rivers—the tide of reminiscence was in full flow. Sik To Wong started the flow by recounting how, as a youth at Dulwich College, George Doherty genially seized him one cold afternoon and made him play rugger, and, having demonstrated its joys to him, they proceeded to a vivid carouse with cyder in his study, which precipitated and fixed a liking for the game in his mind which has remained fast.

This stimulated someone at the end of the table to recount how a member of the present surgical staff, in a period of joyousness one night climbed to the top of the tower of Hunt's House and decorated the spike with a white enamelled crown. It would seem that the then Superintendent had to request the Admiralty to send an active sailor to remove the decoration. It is alleged to be now in the Gordon Museum, but not conspicuously.

No evening such as this could pass without chuckling memories of a physiologist physician ("I mean to say, don't you know"), whose delight it was to be called to do "R.E.'s" for the surgeon one of whose many claims to fame is that he lubricated the intestines of civilisation.

Nor could the pure physiological spirit of Guy's fail to appear, and it is rumoured that a surreptitious attempt was made to found an Oriental Pembreian Society, the Surgeon-Lieutenant of H.M.S. *Berwick* to be its first secretary, as he showed early signs (as yet psychological) of growing a beard. The main objects of the Society being: (1) The cultivation of beards (physiological hirsutism); (2) the abolition of clothes (physiological nudism); (3) the fostering of the oriental system of concubinage (physiological philoprogeniturism); (4) any other vigorous Eastern physiological tendencies.

The Poultonian Pump for providing pure pulmonary oxygen was described at length, and we understand that Mr. Henry Ford has undertaken to supply engines for the apparatus at a much reduced rate.

The name of "Doc" Hancock conjured up very pleasantly the old dissecting-room.

Midnight came unawares and too soon. The evening was ended with the passing round of the milk can to collect for the Treasurer's Appeal.

Those present were: J. T. Smalley, Senior Medical Officer, Government Medical Service; A. T. Rivers, Surgeon-Captain, R.N.; K. H. Digby, Professor of Surgery, Hong Kong University; S. T. Wong, Ophthalmologist (Private Practice); L. T. Ride, Professor of Physiology, Hong Kong University; P. F. S. Court, Government Medical Service; L. T. Pringle, Government Medical Service; John Croot, Private Practice; S. J. Wheeler, Surgeon-Lieutenant, R.N.; J. Lanchester, Dental Surgeon (Private Practice).

Guy's Hospital Nurses' League

A DANCE

A DANCE will be held in the Revelstoke Hall, Nurses' Home, Guy's Hospital (by kind permission of the Governors), on Friday, May 12th, 1933, from 9 p.m. till 1 a.m.

Tickets, 10*s.* 6*d.* each, may be obtained from the following: Mrs. Cook, 51, South Street, W.1; Mrs. H. L. Eason, The Superintendent's House, Guy's Hospital, S.E.1; Mrs. Bulleid, 17, North Avenue, W.13; The Matron's Office, Guy's Hospital, S.E.1; The Counting House, Guy's Hospital, S.E.1.

Early application is desirable as the number of Dancing Tickets is strictly limited to prevent overcrowding.

Medicine

Guy's Hospital Reports. January, 1933. Vol. 83, No. 1.

THE January number of the *Guy's Hospital Reports* consists in the main of two groups of papers. It opens with a series of four papers, each adding a brick to the edifice which, when completed, will have "Nutritional Anæmia" over the portal. The second half of the journal is taken up with three papers on Asthma, an analysis of a series of cases of Hodgkin's disease, and a note upon the association of Achlorhydria and Dysentery.

In the first paper Dr. Witts and Dr. Hartfall discuss the gastric secretion in the group of anæmias which, since the publication of the Goulstonian lectures for 1931, have justifiably been called "Witts'" anæmias. They find that in these "idiopathic microcytic anæmias" of women, achlorhydria is present in 50 per cent. of cases and extreme hypochlorhydria in an additional 30 per cent.

Dr. Hartfall follows with a series of experiments upon the lines of Castle's and confirms the finding of absence of the "ferment" or intrinsic factor in pernicious anæmia. Dr. Hartfall further investigated the content of intrinsic factor in the gastric juice of women with idiopathic microcytic anæmia. In his second paper he reports the result of histamine stimulation upon the gastric juice of cases of pernicious anæmia, all of which showed achlorhydria by gruel test meal. His finding of complete lack of acid with low total chloride and only traces of pepsin demonstrates how severe is the secretory defect.

Dr. Hurst completes the series with an account of a case of Addison's anæmia with sub-acute combined degeneration of the cord following upon chronic obstruction of the ileum. Twenty-four cases of the type have been described since Faber drew attention to the condition in 1893. Dr. Hurst's case is of outstanding interest, however, since it is one of the very few with normal acidity. Thus it would seem that the hæmotopoietic substance produced by the interaction of Castle's intrinsic and extrinsic factors in a normal stomach can either fail to be absorbed or actually be destroyed in small intestine obstruction. The paper concludes with a note upon simple anæmia in small intestine obstruction and the anæmia of carcinoma of the colon.

Dr. E. T. Conybeare's paper forms a link with the second group. M. H. Gordon's work upon the ætiology of Hodgkin's disease has shed a new light upon the subject. He produced a specific encephalitis in rabbits by intra-cerebral and intravenous inoculation of Hodgkin tissue in an adequately controlled series of experiments. Stimulated by this, Dr. Conybeare investigated the records of 35 cases for a similar central nervous involvement. There was no evidence of such change.

Dr. Knott and Dr. Thornton open the series on asthma by a careful research upon the bronchial infection in asthma. Following up the discovery of Eyre many years ago that histamine-producing bacilli of the Friedlander type were common infecting agents in asthma, they carefully investigated these strains. They were able to demonstrate that the histamine-like substance stimulated both the isolated bronchus and a guinea pig's uterus.

Dr. Bruce Pearson records a carefully controlled series of experiments upon the skin reactions of asthmatics designed to evaluate the exact degree of specificity of Oriel's proteose. He comes to the important conclusion that asthmatic proteose, while differing from normal proteose and capable of causing a high percentage of skin reactions in asthmatics, is certainly not specific to the individual and is not even definitely specific to the group.

Dr. Ellis, as a result of his investigation of asthma in Port Sudan, concludes that moulds are

an important ætiological factor there, and that specific desensitisation relieves the symptoms.

Mr. Bowen contributes a note upon "Acute Idiopathic Epididymo-orchitis," Dr. Lintott describes a curious epigastric murmur in portal obstruction, and Dr. Camps concludes the number by a note upon the ætiological association of achlorhydria to dysentery.

Medicine By G. E. BEAUMONT, D.M., F.R.C.P. Published by Messrs. J. & A. Churchill, 1932. *Price* 21*s*.

IN the days immediately prior to the Conjoint or M.B. Finals one is inclined to be intolerant of the more lengthy text-books of medicine. There is a longing for a book which will combine the virtues of a synopsis without its inevitable stodginess, and will give one clear-cut treatment instead of a choice of ten. Dr. Beaumont has aimed at producing such a book, and there can be no doubt as to his success. It is extraordinary the amount of knowledge he has compressed into a book of 700 pages without in any way impairing the ease with which it can be read. He has aimed at excluding everything but the essentials of medicine that will be of value to the student and practitioner and producing a book which is thoroughly up to date both as regards diagnosis and treatment.

The arrangement of the book is good, and on the whole each disease has been allotted its fair share of space, but it is surprising to find a recent text-book giving as much space to chlorosis as to simple achlorhydric anæmia, and that chronic pancreatitis and ulcerative colitis should only be allotted the same as ochronosis, Ayerza's disease and Gaucher's splenomegaly. The sections on Fevers and Neurology, particularly that on the cranial nerves, are excellent. It is pleasing to see that Volhard and Fahr's classification of nephritis has been adopted; though Rich's classification of jaundice does not appear either to be so good or generally adopted as to warrant inclusion in a text-book of medicine.

Most writers of medical text-books have for long laboured under the delusion that their descriptive powers are so good that they can dispense with all pictures and diagrams except the temperature charts of typhoid fever, lobar pneumonia and the Pel-Ebstein syndrome. It is a pleasure, therefore, to see that Dr. Beaumont has incorporated numerous simple and very helpful diagrams; most profuse and of most value in the sections on neurology and fevers, they are partly responsible for making these the best in the book.

The young practitioner faced by a public which expects him to know all about diets will find that his needs have been borne in mind throughout, and it is the diets and the diagrams that constitute two of this book's most distinctive features.

Treatment and physical signs have been stressed, one up-to-date method of treatment being fully described for each disease. Over a hundred prescriptions have been written in full—a great boon to the student who knows that you give Pot. Cit. to pyelitis, but has only very vague ideas as how to administer it. Some of the prescriptions, however, tend to be somewhat homœopathic in their dosage.

In his preface Dr. Beaumont defends his omission of sections on Dermatology and Psychological Medicine that these are highly specialised subjects not dealt with in the general wards of a hospital and best acquired from practical experience. This may be so, but it seems a pity that diseases such as Aleppo sore and loa-loa, which constitute a comparatively large proportion of the sections devoted to Tropical Medicine and Parasitology, could not have been expurgated and room made for a short description of the more common psychological disturbances and skin ailments.

The day of the one-man text-book may be passing, but one is not at all sure of it after reading Dr. Beaumont's book. The criticisms that have been advanced on it are minor ones and in no way detract from its value. The price is one guinea, and Messrs. Churchill are to be praised for offering such a well-bound and well-printed book, containing such a mass of information, for so small a sum.

Common Skin Diseases (*General Practice Series*). By A. C. ROXBURGH, M.A., M.D., B.Ch., F.R.C.P. Published by Messrs. H. K. Lewis & Co., 1932. 310 pages, 110 illustrations and 8 coloured plates. *Price* 18*s*.

DISEASES of the skin are notoriously difficult—difficult to diagnose and even more difficult to treat. It is not surprising, then, that the befogged student later becomes the general practitioner who confesses brazenly that he knows nothing whatever about skins, and divides their diseases into two classes: those he can treat with calamine or Lassar's paste, and those that he has to send to the specialist. This pitiable confession is more than an expression of self-satisfaction in culpable ignorance; for a failure to realise what an important guide a study of the skin can be to the knowledge of the general body health betrays a lack of appreciation of the complete art of the physician.

Should the student or the practitioner wish to redeem himself from this unsatisfactory state of

mind, he will find an excellent introduction to dermatology in Dr. Roxburgh's new book. Many books nowadays are written for "the student and the general practitioner," and this book, which is so intended, is even one of H. K. Lewis's excellent General Practice series. There can be no doubt of its success. The text is excellent, and Dr. Roxburgh's easy style and simplicity of expression make the subject much less difficult than it is usually imagined to be. Features of the book are a few chapters devoted to the general pathology, diagnosis and treatment of skin diseases, and a valuable index of preliminary diagnosis, which groups the diseases under the lesions they produce. In these few chapters the author does much to clear away the initial difficulties of the beginner, and later, in the discussion of the diseases individually, he has been careful to give a full differential diagnosis. This is extremely valuable. In sections on treatment Dr. Roxburgh clearly indicates what, in his experience, he has found most valuable. He gives complete prescriptions, and yet does not leave the reader a long list of ointments and pastes, "all of which can be tried."

We have only one criticism to offer. Although there are numerous photographs, there are too few coloured plates, and this seems to us almost an essential in a book on diseases of the skin. Otherwise it is a first-class book, and one that we can confidently recommend to anyone anxious to get some glimmerings into the mysteries of dermatology.

Heart Disease; Principles of Diagnosis and Treatment. By CRIGHTON BRAMWELL, M.A., M.D., F.R.C.P. Published by Messrs. Edward Arnold & Co., 1932. 244 pages. *Price* 12*s.* 6*d.*

DR. CRIGHTON BRAMWELL has written a very interesting and instructive book on heart disease. It is not a text-book in the ordinary sense of the term, for, as the author admits in his preface, no attempt is made to cover the whole field of cardiology or to give an exhaustive account of the signs and symptoms of each variety of heart disease. Instead it is in many ways more valuable than an orthodox text-book; throughout, Dr. Bramwell's aim has been to present the principles of diagnosis, treatment and prognosis, and not to allow them to be overshadowed by a mass of confusing detail. In this he has certainly succeeded, and a careful perusal of this book will prove of more assistance in dealing with problems as they are met with in the consulting-room or at the bedside than many a more pretentious text-book. For instance, consideration is given to "imaginary heart disease," the differentiation of the various "heart-aches" from angina, and heart disease and pregnancy—all subjects that are apt to be glossed over in the ordinary text-book. It is pleasant also to see the psychological aspects of treatment discussed.

We were disappointed, however, in the sections on high blood pressure and cardio-aortic syphilis, and that the author purposely refrained from discussing congenital heart disease fully. The diagrams and illustrations are good, and an adequate account of electrocardiography and radiography of the heart is given. Some clinical case reports are introduced to illuminate the text.

Dr. Bramwell writes well, and this book may be heartily recommended to all, not so much as a book of reference, but as a book that, in a clear and interesting way, brings out all the important principles of heart disease.

The Biochemistry of Medicine. By A. T. CAMERON and C. R. GILMOUR. Published by Messrs. J. & A. Churchill. *Price* 21*s.*

THIS is the first edition of a very useful and interesting work. It is well written, clear and precise, and the summaries at the end of most chapters are very helpful. The arrangement is in certain places a little confusing, though this is largely remedied for its use as a book of reference by the index, which could, however, be amplified with advantage.

The chapters dealing with glycosuria and the blood sugar are particularly pleasing, and many important points are emphasised. For instance, the necessity for stating the method of estimating the blood sugar and the source of the blood, which is too seldom realised by writers of papers, is stressed. It is emphasised that the more accurate recent methods of blood-sugar estimation give results 0.02 to 0.03 per cent. lower than the Folin-Wu method, while an equal difference may exist between the values obtained by examination of the venous or capillary blood.

The section devoted to a discussion on obesity is excellent and appears to summarise most of the important modern literature. The statement that the administration of thyroid to cases of exogenous obesity is contra-indicated will come as a blow to such general practitioners as hear it. For to them the prescribing of thyroid has become a welcome alternative to telling the "grazing woman" that she is grossly over-eating.

The theory of the toxic effects of burns is considered at length, and it is pleasing to find that it is believed to be unproved, while the less commonly known but important ahydræmia is stressed, both pathologically and for reasons of treatment.

The chapter on the endocrine glands is disappointing and does not reach the high standard attained elsewhere in the book.

We venture to suggest that this book, like so many public benefactions, however, will be used most by those for whom it is not intended—that is to say, not by "the student receiving clinical instruction in the latter years of his course" or by "the practitioner who graduated 20 years ago." The former is usually too busy acquiring bare examinational knowledge, and the latter too set at his 50-odd years to bother with a new subject. Its value would appear to be greatest to those who, having acquired a registrable qualification, desire a further knowledge for higher examinations.

The inclusion of an up-to-date bibliography at the end of each chapter considerably increases the value of the book, for by this means its size is limited to requirements of most (490 octavo pages) while it will serve as a useful guide to those who wish to begin a more detailed search into any one of the many interesting problems described.

Acidosis and Alkalosis. By S. GRAHAM, M.D., F.R.F.P.S., and N. MORRIS, M.D., B.Sc., D.P.H., F.R.F.P.S. Published by Messrs. E. & S. Livingstone, Ltd., 1933. 203 pages. *Price 7s. 6d.*

PROGRESS in the study of disturbances of the acid-base equilibrium of the body has been so rapid in recent years that it is difficult for the student to find readily the necessary information and guidance on this subject, even though it is becoming of increasing importance in clinical medicine. None of his ordinary text-books of medicine help him, and, up till the present, if he has not been able to delve into the original literature, he has probably been dependent on a well-known book of Applied Physiology for his knowledge of acidosis and alkalosis and their clinical importance. This little book coming from Glasgow should help to fill this gap in his medical text-books.

Although it must deal with physico-chemical problems that are often abstruse, let it be said at once that, on the whole, its authors keep to the shallower waters, and that there is little in it which cannot be understood by the average modern medical student.

Introductory chapters discuss the reaction of the blood, the defences of the body against any alteration in acid-base equilibrium, and the different varieties of acidosis and alkalosis with their clinical and biochemical recognition. Separate chapters are then devoted to the alterations that take place in diabetes, nephritis, tetany, gastro-enteritis, cyclical vomiting, pyloric stenosis and anæsthesia, and the way these changes are produced.

In each section the clinical aspect is fully considered, and the treatment discussed. Description of the ketogenic diet is given, but probably in a future edition more will be said about its value in pyuria. This book is suitable for the senior student who wishes to co-ordinate his views on a difficult problem.

Vitamins and Other Dietary Essentials. By W. R. AYKROYD. Published by Messrs. William Heinemann, Ltd. *Price 7s. 6d.*

DR. AYKROYD deals with Calories and Carbohydrates in the same way as Lewis Carroll dealt with Cabbages and Kings. He divests them of their heaviness without depriving them of their importance.

This book caters for every class of reader, from the officious and too often inaccurate informer to the earnest but too frequently ignorant disciple. Though you may not remember that Lavoisier was the first to point out the principles of respiratory exchange, you will never forget that his head fell a victim to Madame la Guillotine's bourgeois vanity. Dr. Aykroyd clothes the desiccated skin and bones of his metabolic mummy with the attractive and lively swaddling bands of animated common sense. Nor does his text lack authority. He, a late Beit Memorial Fellow, has dissected the skin from the bone before he painted so attractive a portrait of so potentially dull a subject.

The price of the book places it well within the reach of all who may read this review, and its perusal will endow the reader with information both important and palatable.

So much dry-as-dust text-book literature has been forced down our throats on the subject of vitamins and other dietary essentials in the past that we have come to regard them as both metaphorically and literally indigestible. Dr. Aykroyd has added the gin to the tomato cocktail without taking the vitamins out of the tomato, and has thus given us an appetite for the more easy digestion of the essential and all-important facts of the science of nutrition.

The Breast-Fed Baby in General Practice. By L. G. HOUSDEN, M.B., B.S. Published by Messrs. H. K. Lewis & Co., Ltd. *Price 4s. 6d.* net.

THIS is a book by a former house physician in the Children's Department, well known in his day for his zeal for the subject. Evidently he did not pass his time with Dr. Cameron in vain. Cameron was the true pioneer of all that is best in modern ideas of breast feeding

in this country, and published them long before the religieuses of the Truby King system began to have their vogue. Dr. Housden's book has grown out of these ideas, amplified by experience and inspired by the single-minded enthusiasm which was his rather endearing characteristic. There is nothing very new in it, but in this he is quite right; safety and not experiment is the best card for the general practitioner to play, at any rate with mothers and children.

The book is clearly written and well ordered. Knowledge of the subject is thorough. If only all general practitioners knew half as much, what a lot of misery and anxiety would be saved! There are some points where many modern workers would not agree with him; for instance, where he recommends three-hourly feeding during the first two or three weeks of life. I suggest to him also that in his next edition he entirely re-writes his time-table of weaning in accordance with later and better notions on the subject.

H. ST. H. V.

A Doctor to a Mother. Wireless Talks by EARDLEY HOLLAND, JEWSBURY, and WILFRED SHELDON. Published by Messrs. Arnold, Ltd. *Price* 1*s.* 6*d.*

SOMETIMES when tuning in to some music one accidentally stumbles on some person instructing the multitude over the ether. One then wonders what will be the reaction of these children of a larger growth to whom he is talking. Will they swallow all that he tells them or will they exhibit the negativism which is a characteristic of childhood and want to go and do the opposite?

As far as these published talks are concerned, one hopes that in Dr. Eardley Holland's case the reaction had been entirely favourable. One regards Dr. Jewsbury's with mixed feelings. On breast-feeding and the management of the breast-fed infant he is impeccable, as one would expect, but why in these days of the Mellanbys does he suggest that a child should be weaned on to oats, barley, sago and other such carbohydrates? Similarly the menu for the second year contains much cereal food. It now seems to be well established that no very young child should be given cereals, which promote rickets and bad teeth. One can only hope that the listening multitude eager for the new knowledge here experienced a reaction of negativism.

Most elaborate concoctions seem to be required to wean a baby on to cow's milk at eight or nine months—five different ingredients measured to the half ounce and level tea-spoon. Really it is not like this; babies of eight or nine months are tough animals, and plain milk does perfectly.

Dr. Jewsbury's chapters on Prevention of Disease and Minor Ailments are very good. Dr. Sheldon, treating of Nervous Habits, Sleep and Development, is very good, too, though faintly inclined to sentimentality. One could hardly blame him for this, however, knowing how the work came to be produced.

H. ST. H. V.

Mothercraft for Older Girls. By H. VINEY, S.R.N. Published by Messrs. Faber & Faber. *Price* 3*s.* 6*d.*

MISS VINEY'S book is most interesting and full of sound advice for young and inexperienced mothers. She points out the importance and duty of every pregnant woman caring for herself and so the child during these months. Her description of the development and birth of the child is put in a simple manner that all could understand.

I do not agree with her that in some cases a child is better nursed in arms than lying in a pram for the first month. I think all babies should be nursed for a while after the bath and each feed; otherwise a cosy and comfortable pram is much the best place for them for the first month. A healthy child will sleep most of the time, and surely a delicate one will be better lying still and quiet in a pram than being moved about.

With regard to the care of the infant's eyes, Miss Viney points out the need of protection from the sun and bright light. The idea of a hat with a brim lined with green is good, but seems hardly necessary for so young a child.

There are chapters on diet which are excellent, but I am surprised to see that rice pudding is definitely barred from the diet of the child of one year. Surely this common and universal pudding is excellent if properly cooked, and no food is good unless properly cooked.

There are most interesting and helpful chapters dealing with the moral training, discipline and formation of the child's character. Miss Viney reminds one of the importance of the parents setting the example and teaching the small child to follow the Great Example.

The pictures and diagrams are all good and instructive.

I think most girls would benefit by reading this little book, besides finding it very interesting. As Miss Viney says, many of the cases which appear to be neglect are readlly due to complete ignorance.

Surgery

Operative Surgery. By MILES and WILKIE. Published by the Oxford University Press. *Price* 21*s*.

IN their foreword, the authors admit the difficulty, if not the impossibility, of bringing the whole of the technique, the indications and the minutiæ of operative surgery into one volume. The task they have set themselves, however, they have discharged with a high level of competence, if not with brilliance. So restricted is their space that they must very often leave out alternative measures; indeed, in certain parts of the book one finds oneself wishing that a little more space to this or that subject had been added at the expense of some of the more elementary and well-worn, though nowadays antique, operations. In a book such as this, that complaint is always very easy to make and very difficult to rectify. The book is intended to provide for the needs of "undergraduates who require a guide to their studies in the class of operative surgery and in the hospital, and of young graduates who may be called upon to undertake operative work as house surgeons." It is also intended "to meet the immediate requirements of candidates for the higher surgical diplomas." To combine sufficient knowledge for both types of reader in just under 600 pages is a praiseworthy attempt, and to the credit of the authors and to the value of the book it should be said that, where the text falls short of this high aim, it is the senior student who will suffer. The elementary matter is very thoroughly set out.

The list of coadjutors is long and includes some famous names, and the worth of the book is greatly enhanced by the fact that each section, especially those of the specialities, is described by a specialist in that branch of surgery. To name them all would be tedious, to choose amongst them invidious.

The text generally is excellent, the descriptions clear, and the pages have enough sub-headings to catch the eye and not enough to make the book look like a "Surgery without Tears." Several small statements met our censorial eye; in the discussion on the surgery of gastric carcinoma the statement was made that gastrectomy is no more dangerous than gastro-jejunostomy. We may have misread the text, but a second and third perusal still left us with an impression that that was the opinion of the authors. Another small lapse, expecially since the book aims to be mainly practical, is that in describing abdominal section, no mention could be found of the tendinous intersections of the rectus muscle. Surely they form a very practical point in the paramedian approach to the peritoneal cavity. Apart from this there is little fault to be found with the text; the illustrations are excellent, clear and concise, with no wealth of unnecessary detail to attract and confuse the eye. One small pecadillo—in one illustration (Fig. 251) we find one arrow, labelled "efferent loop," pointing to both loops of a gastrojejunostomy—an annoying fault, as the arrangement of these loops is a very perplexing one to the young surgeon.

The book is very well worth the guinea charged for it. If it does not contain all that is necessary for the Final Fellowship, that is only because the authors have had to keep the number of pages within bounds. For the man who is up for his Final Conjoint or his B.S., it contains more than enough, and can be heartily recommended.

Elementary Handbook on Radium and Its Clinical Use. By D. F. CLEPHAN and H. M. HILL. Published by the Oxford University Press. 164 pages. *Price* 7*s*. 6*d*.

ALL praise is due to the two authors of this book. They have at last produced, within a few pages, all that the ordinarily intelligent medical practitioner wants to know about radium. The writers do not begin by assuming that the reader has at his finger-tips all the facts and physics of radium and its allied substances; the first 20 or so pages are devoted to a clear, and at the same time concise, description of the behaviour of radium, those things which one ought to know and is always meaning to look up, but somehow one never has the time. The actual physics of the element are in themselves very interesting, and the facts are presented in a very interesting fashion.

With the clinical use of radium, the authors show themselves no less expert, and although in no way dogmatising on the mg. hourage, they contrive to indicate fairly clearly to the reader what are the optimum exposures in any given case. The book is small, just over 150 pages, and therefore they have little space to devote to the subject, but they are certainly to be congratulated on making good use of so little space.

The book is published by the Oxford University Press at 7*s*. 6*d*., and can be heartily recommended to anyone who may at any time have to deal, however superficially, with radium treatment for malignant disease. It would also be useful for the man reading for his Finals, as it lightens a dark chasm in our surgical reading into which the standard text-books of surgery throw but a little and glimmering candle-gleam.

A Shorter Orthopædic Surgery. By R. BROOKE, F.R.C.S. Published by Messrs. Wright & Co., Bristol. *Price* 10*s.* 6*d.*

THIS book is suitable for dressers during their three months in the Orthopædic Department, and gives lucid explanations of the common orthopædic problems which are liable to be glossed over in the usual text-books of surgery. Its 144 pages make easy reading owing to the helpful nature of the accompanying X-ray plates, which are numerous and extremely useful. Time will be well spent if this book is read before the Conjoint and M.B. Examinations.

Clinical Ophthalmology for House Surgeons and Students. By J. MYLES BICKERTON, M.A., F.R.C.S., and L. H. SAVIN, M.D., F.R.C.S. Published by Messrs. H. K. Lewis & Co., Ltd. 158 pages, 92 illustrations and 6 plates. *Price* 7*s.* 6*d.*

THIS is an excellent handbook for students during their clinical period. As the title implies, it should be regarded as a guide to clinical study.

The first chapter is devoted to a routine examination of the eye. This important subject does not usually obtain the prominence it deserves, with the result that it is too frequently overlooked.

Then there follows a practical account of the common conditions seen in the ward and Out-Patients' Department.

The chapter on " Sight Testing for Beginners " amply justifies the authors' claim, at least to excite the curiosity of the student. It is followed by a concise and clear account of the various types of squint and their diagnosis. Operations are described and important points are stressed.

The description throughout is short and to the point. Technical terms are always accompanied by an adequate explanation, while the headings in heavy type make the book exceptionally easy reading.

A chapter devoted to the more important points in the anatomy of the eye would be welcome. A few coloured plates would enhance the value of the book, especially the chapter on examination of the fundus. This would, however, of necessity increase the price of the book.

This is a book in which no sentence is superfluous, while the style in which it is written makes it a pleasure to read. It is thoroughly recommended to those working for examinations as well as to those in their clinical study, to whom it should be a stimulus and an aid.

A Surgeon's Pocket Book. By H. S. SOUTTAR. Published by Messrs. Heinemann, Ltd., 1933. *Price* 7*s.* 6*d.*

RUSKIN has said in one of more moral moments, " It has been made part of our moral nature that we should have a pleasure in encountering and conquering opposition, for the sake of the struggle and the victory, not for the sake of any after-result. . . ." How we have lapsed from the 'nineties. We count the thing done better than the deed—we get results. We talk percentages, we talk pass lists, we talk examinations. We appear to have lost sight of the fact that knowledge and its attainment are the aim of our training, that we waste our transient youth and our long summer afternoons on the relations of the adductor longus, not to pass examinations, but so that we may have knowledge. Many pages have been written on the iniquities of the examination system, but none, so far as we know, on the peculiar and parasitic growth of the cram book. There may be people who can learn from these dry strings of facts, long lists of words, very often without verbs, always without style, but they can never have learnt much; what they have gained from them they may be able to repeat on the examination paper, but they can never have learnt anything from them.

These bitter reflections have risen to our minds from the perusal of " A Surgeon's Pocket Book " (Souttar). The author in his preface states that he realises that it " is just the sort of abstract that every student should make for himself . . ."—and we are in absolute agreement. But the difference, what an enormous gulf between making the abstract and having the abstract ready made and neatly bound at 7*s.* 6*d.*, the difference between the student who has made his abstract and the one who buys it ready made is that between the man who has travelled a land himself on foot and knows the cities, the hills and the rivers, and the man who has passed through it in a first-class carriage, wrapped in a rug and a Bædeker.

However, examinations being what they are and the average student being what the average student always has been, lazy, this book should command a good sale, as the facts which are presented are so compressed that even the most inveterate lotus-eater must register some of the potted facts which are arranged in potted paragraphs.

For instance, of the troubles which the student in his sloth inflicts upon his misguided head take the following sentence: " Intussusception in Children and Adults. In 70 per cent. there is a definite cause. They tend to be chronic. Symptoms are very irregular." The facts are there, but they need unravelling. Surely the effort is

not worth while; surely it would be better to devote half an hour to reading the same subject in the author's well-known and interesting "Art of Surgery." As may be seen from all the foregoing tirade, we are opposed in principle to cram books, but it may be recommended to those in search of such a book; it does contain a large amount of matter in as short sentences as is humanly possible.

Materia Medica and Therapeutics

Hale-White's Materia Medica. By A. H. DOUTHWAITE, M.D., F.R.C.P. Published by Messrs. J. & A. Churchill. 21st Edition. *Price* 10*s.* 6*d.*

THIS book is sufficiently well known both to students and practitioners, particularly past and present members of this hospital, to need no introduction.

The 21st edition, embodying, as it does, the alterations included under the British Pharmacopœia, 1932, is a completely up-to-date work, many of the newer drugs which are as yet unofficial also being included, as well as substances used for renal diagnosis, etc.

The subject matter is well set out and presented in a very readable form, the general pharmacological action of a group of drugs preceding the description of each drug, thus presenting an easier method of assimilation to the student.

Finally, the departments of Pharmacy and Prescribing receive due consideration, both of which are so often neglected in other text-books on this subject and which are of vital importance both to the student and to the practitioner.

We have no hesitation in recommending this book to those who have still to pass examinations and to practitioners as a book of reference.

Whitla's Pharmacy, Materia Medica and Therapeutics. Twelfth Edition. Revised by Prof. J. A. GUNN. Published by Messrs. Baillière, Tindall & Cox, Ltd., 1933. 645 pages. *Price* 12*s.* 6*d.*

THE first edition of this book was published in 1881, and for long it was a favourite text-book of therapeutics. To go through 12 editions is a severe test of the value of a book, and our first impressions on opening this new edition, under the editorship of Prof. Gunn, were that it would go through many more.

The make-up of the book is most attractive, the arrangement of subjects clear and easy to follow, and the printing a real delight. The first 150 pages are devoted to pharmacy, prescription-writing and materia medica, and have been revised by Mr. H. Berry. They seem entirely satisfactory, and it will be gathered that this branch of the subject has received sufficient and proper attention. In the next 100 pages is given a full list of the official remedies with a short description and dose of each. By grouping all the drugs together in this way reference is greatly facilitated, and the same alphabetical order is kept in the next section, which is devoted to therapeutics. It is this section that Prof. Gunn undertook to revise, and, while we sympathise with his desire to retain the individuality of the book and interfere with as little as possible of Sir William Whitla's personal opinions, observations and tastes, we wish he had been a little more ruthless. A close comparison with this edition and the one of 1914 shows surprisingly few alterations in the text of the therapeutic section. True, new drugs have been added, but the description of them is not so comprehensive as we should expect to find in a modern text-book, and more space could easily have been found for them by a judicious weeding out of much that is long out of date.

Prof. Gunn must surely have had his tongue in his cheek when he allowed sentences like the following to stand: Ergot "has been vaunted in aneurisms and goitres when injected into the tissues surrounding the sac; also it has been tried in enlarged spleen and spinal congestion." This is not an isolated example; the therapeutic section abounds in sentences such as these, and it is not uncommon to have 20 or 30 different uses ascribed to a single drug. Despite these irritating archaicisms and an apparent lack of true scientific scepticism, the therapeutics of this book are interesting and instructive. Whitla was obviously a man with ideas of his own, and he gives many a tip and wrinkle that is not to be found in the orthodox text-books.

The rest of the book is devoted to a description of the non-official remedies. This has been very ably revised by Dr. Hoyle, and in this section the student can find a full description and details of use of all drugs not in the British Pharmacopœia and of all important proprietary drugs which are used at all commonly. This is an extremely valuable section. Finally, there is a short account of the treatment of poisons. Were the therapeutic section to be revised more thoroughly, this book would be of the greatest possible value to every student and practitioner.

Materia Medica for Nurses. By A. MUIR CRAWFORD, M.D., F.R.F.P.S.G. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 3*s.* 6*d.*

THE prefaces to both first and second editions of this brochure are alone a justification for their publication, the second issue being a

thoroughly up-to-date revision to bring it in accord with the latest edition, dated 1932, of the British Pharmacopœia, thus bringing it up to a pitch rendering it all the more suitable to the needs of the nursing profession.

The little volume is both clear and concise in detail and layout generally. Its arrangement which is a sequence of chapters, commencing with definitions and ending with a Table of Important Doses, and still further enhanced by a really good index, gives it a place in the front rank of literature dealing especially with the hospital profession.

Although in one sense a technical book, it is not beyond the understanding of others not within the profession appertaining to hospitals.

Massage

The Theory and Practice of Massage and Medical Gymnastics. By BEATRICE M. GOODALL-COPESTAKE. Fifth Edition, with 118 Illustrations, including 22 Plates. Demy 8vo. 332 pages. Published by Messrs. H. K. Lewis & Co., Ltd., 1933. *Price* 12*s.* 6*d.* net.

THE fifth edition is divided into three parts. The first covers the Theory of Massage and Medical Gymnastics, the second Surgical Conditions, and the third Medical Conditions, with some detail of treatment in each part.

The book ends with an appendix of examination questions, a glossary, a bibliography and a list of articles of recent publication.

The Medical Conditions are too brief to be of much use, and even the chapter dealing with rheumatic conditions, although largely re-written, requires the subject in much more detail for students. The value of the book is the addition to the text of chapters on Kinesiology and Remedial Exercises as taught by Dr. Arvidson. "Kinesiology," the science of bodily movement, is clearly described and will be most useful to the student teacher and the student in training. The illustrations of fundamental and derived positions are clear, but more detail of applied anatomy and mechanics of each exercise would have added to their value.

The chapter on Scoliosis has been improved, and some clear illustrations added. Some criticism is possible on the choice of exercises chosen for genu valgum, as the flexed knee slacks off the shortened ligaments and does not help to get the correction suggested.

The print is good and the illustrations are clear, and Miss Copestake is to be congratulated on the fact that the book has reached its fifth edition in so short a time. H. S. A.

Massage and Remedial Exercises. By NOEL M. TIDY. Bristol: Published by Messrs. John Wright & Son, Ltd., 1932. 429 pages, 170 Illustrations. *Price* 15*s.*

MISS TIDY has conquered where so many people have failed in producing a comprehensive study for the use of senior students, teachers and the medical profession interested in convalescent treatment.

There is much praise and little criticism to be made. The teaching is orthodox and well tried by those hospital departments where investigations are carried out. She has not introduced original work except for the effort made to show life in the illustration of exercises.

The author's own experience has been wide, and the results of her large collection of facts will place this text-book as a valued possession.

The first seven chapters deal with fractures, dislocations, sprains, muscle injuries and joint diseases, with a detail of treatment. Here it is possible to offer Miss Tidy a small criticism; students are warned that the day to begin movement must depend on modern opinion.

The next seven chapters are devoted to the nervous system. This will be found invaluable to students, as the text is full enough for study and the illustrations most helpful.

Deformities are divided into two chapters and are well illustrated, the orthodox treatment being well described.

The remainder of the book is devoted to diseases of the constitution, heart and lungs. Miss Tidy has very comprehensively described the treatment of both hearts and lungs from knowledge gained during her work in the Massage Department at Guy's, and this will prove of the utmost use to the training schools in the future.

The final chapter is devoted to abdominal and pelvic conditions.

To keep the book at a price within the limits of students the print has been sacrificed; it is too small and the work consequently too closely written for comfort—otherwise Miss Tidy has to be congratulated on her achievement. H. S. A.

Advanced Methods of Massage and Medical Gymnastics. By SHIRES and WOOD. Second Edition. Published by Messrs. Faber & Faber, 1931. *Price* 5*s.*

THIS second edition has been written with a view to add to the text and make slight alterations. The object of the book is that it may be of use to the student and medical men. The subject is too vast to squeeze into so small a space to be of much help to students in training, but it may well be used by the physician or surgeon as a guide for his instruction to the masseuse.

The chapter on Infantile Paralysis is useful in that it gives detail of re-education, and the chapters on Sling Exercises by Mrs. Guthrie Smith will interest those who use these methods; the diagrams show positions very successfully and are helpful.

The treatments are not sufficiently detailed and, except that the text is correct as far as it goes, the book will not be found very helpful to those whose knowledge of their subject is at all comprehensive. H. S A.

Histology

Bailey's Text-book of Histology. Published by Messrs. Baillière, Tindall & Cox, Ltd. *Price* 31*s.* 6*d.*

THE eighth edition of this book is revised and re-written by Elwyn and Strong in collaboration with the Anatomical Staff of Columbia University. In recent years histology has tended to pass from the hands of the physiologist into those of the anatomist. The anatomical trend in histology has led, possibly, to more precision of detail than was customary in the past, and it is no doubt fitting that the anatomist should describe not only the naked-eye appearances of the human body, but also their microscopical counterparts. On the other hand, the transference of histology to the realms of anatomy has resurrected the old question of the dependence of structure on function. This is recognised in this book in the following statement, which appears in the preface: "The contributors realise that structure assumes its full meaning only when correlated with function. Hence they have endeavoured, whenever desirable, to emphasise the physiological significance of the structures described."

This promise is inadequately fulfilled. The function of the ovary, for instance, is dealt with in 30 lines, whereas the minute structure of the female reproductive system occupies more than 30 pages. The function of the pituitary body is relegated to small print and occupies about one page. These are but examples typical of the whole book.

The two chief editors of the book are neurologists and, appropriately, one-third of the text is given up to neuro-histology. This section is particularly well done, but its appeal is greater to the specialist than to the general histologist.

The book, in fact, does not cater for the student of medicine, nor for the general practitioner, but is rather in the nature of a résumé of standard modern teaching in the realm of minute anatomy.

The illustrations are carefully prepared and excellently reproduced, and the book, as a whole, is one which should comfort the soul of the pure anatomist or physiologist when he contemplates its addition to his library. In it he may find material with which to amplify his lecture notes, and its pages might, with advantage, associate themselves with his epidiascope. P. M. F. B.

Biology

Biology for Medical Students. By C. C. HENTSCHEL and W. R. E. COOK. Published by Messrs. Longmans, Ltd. 630 pages. *Price* 18*s.*

IT is not difficult to imagine this book rapidly becoming popular with medical students. It is designed just to cover the syllabus of the 1st M.B. (Lond.). The authors have found room to include both the fauna and the flora, and they are clear and concise in describing the anatomy of all the necessary forms. The binding is good, the paper and printing excellent, and there is an abundance of drawings, diagrams and photographs. Furthermore, the authors render the student valuable assistance in taking much trouble not only to emphasise the innumerable technical terms (by having them printed in heavy type), but also to explain on every occasion the meaning of these words. One only hopes that this wealth of terminology will not lead to confusion.

There are, unfortunately, occasional statements which may badly mislead the student. One or two appear to be definite inaccuracies, while others show how easy it is to be trapped in trying to illustrate a point by introducing analogies. This tendency (and also that of endowing the lowest creatures, *e.g.*, the medusa of Obelia, with the faculties of thought and discrimination) is to be deprecated in view of the deplorable voracity of first-year students for such expressions and the distorted manner in which picturesque comparisons re-appear in examination answers.

However, for the most part the morphology of the regulation plants and animals is adequately treated. This book is, perhaps, less helpful in discussing the more problematical and more controversial points in biology. It is difficult, if not impossible, to name any book on elementary biology which is successful in its accounts of the many fundamental biological problems and the theories which surround them. If the medical student needs a new book on biology there can be little doubt that it is one giving clear and impartial statements and discussion of the more important aspects of the more important biological considerations. We have here no greater virtue than in previous books in this respect. The subjects of the last chapter suffer from the small amount of space devoted to them. But this book is admirable for reference at the beginning and for revision at the end of the course.

Correspondence

The '89 Club

To the Editor of the GAZETTE

SIR,—The above Club are holding their 37th Annual Dinner and Meeting at the Trocadero Restaurant on Wednesday, 10th May, under the presidency of Dr. G. Bertram Muriel.

Will all the members please make a great effort to be present to make the Dinner a success.

Notices will be posted in due course.

Yours, etc.,

GERALD S. HOVENDEN,
Hon. Secretary.

Barnes,
S.W.13.

The "Lawn" at Guy's

To the Editor of the GAZETTE

SIR,—I notice that, with the return of Spring, the Guy's horticultural experts are at work once more. May I crave your indulgence for a few lines on the subject of "Grass"?

For several years I have watched with interest the efforts of the said experts to persuade grass to grow on the small rectangular patch in front of Esther. Each year the good seed has been scattered with a lavish hand, each year the gallant grass has responded hopefully, and each year the early promise of verdant sward has failed to materialise.

Sometimes a garden party is held and a band-stand erected over it, while the careless feet of visitors are encouraged to stamp down the young shoots. One year it became a builders' Tom Tiddler's ground while the passage that passes beneath the walk was renovated. In other years other equally disastrous happenings have had the same disastrous effect.

Last year, however, my hopes rose again. It was clear that the authorities were making a determined effort. The ground was broken up, sowed, raked and chained off. But, in addition, two offensively large notice-boards were erected at either end, bearing the legend, "Please keep off; lawn planted." A moment's thought convinced me that a master mind was at work. At first it appeared a little strange that two such imposing notices should be raised to guard so small a space—and then it occurred to me to wonder who it was that the authorities had taken so much trouble to warn. Was it students, nurses or visitors, upon whom the virgin soil was expected to exert so powerful a fascination that they would stray from their path to leave a foot-print there? Was it, perhaps, a warning to the birds and beasts that haunt the Park at night—a more reasonable suggestion on the whole, but not convincing!

And then the dazzling truth flashed over me. A man well versed in the psychology of grass must be at work. The notices were for the benefit of the grass itself! For years it had tried and failed; it must be losing heart—it must be encouraged! Hence these magnificent warnings, a sign to every shoot that the authorities were taking a personal interest in it, and what seedling could fail to swell with pride when the word "lawn" was applied to it? All was now clear. Duly the grass sprang up, responded to the flattery and flourished. At last, I thought, the trick is done.

And then one day, on entering the Park, my heart sank, the sky darkened, and I knew one thing for certain—the horticultural experts at Guy's know nothing about grass. Their psychology may be good, but their physiology is rotten. For this is what had happened. Two men, in boots of heavy make, had trampled down that young grass with the assistance of a heavy mower, whose knives were evidently none too sharp. The grass was obviously doomed; not much of it was cut, but there it lay, lank and dishevelled, uprooted in places and exposed to the sun's rays. A few strong tufts survived to represent the tragedy and comedy of a "lawn."

May I suggest, if it is decided to re-sow the "lawn" this year, that when the grass has become established, say towards the end of July, it is either scythed or trimmed with hand shears (a service I would willingly perform myself). Under no circumstances should it be mown till well on in the season, and then one man would do less harm than two. Finally, let two notice-boards even larger than last year's be placed in position for the benefit, not of grass, cats or students, but for the horticultural experts themselves—"Please keep off; lawn planted"!

Yours, etc.,

"VERDANT GREEN."

Guy's Hospital,
S.E.1.

A Dental Story

To the Editor of the GAZETTE

SIR,—In a recent issue of the *Gazette* there was an account describing how a patient with pain in the jaw had been relieved, I think by the unorthodox method of painting the palate with a solution of cocaine. The lesson

seemed to be that some pains in the jaws are of psychoneurotic origin. On the same day, on turning over some old papers, I found some dental X-rays and a report on my own teeth dated 6th April, 1922, which I enclose. They reminded me, Mr. Editor, of a story which seems not to be devoid of interest, nor of lessons to members of the dental and medical professions. The lesson I learnt has enabled me to cut short the sufferings of some of my patients when the dentists had failed. Bernard Shaw has asked the public to remember that doctors, too, are mortal, and the same request should apply, of course, to the dentists.

Towards the end of 1921 I began to be troubled with a diffuse pain in the left side of my face. Finally the pain became so insistent that I consulted my medical colleagues, who said the pain was of dental origin. I then went to a friend in the Dental School, who took me to see his chief. I was at once X-rayed; the report was, "There is no apical abscess and I can see no evidence to cause pain." A further examination showed that there was a filling in the last upper left molar but one, composed of some kind of alloy which was alleged to be causing pain by "electrolytic dissociation." My feelings when I heard this fine rounding diagnosis must have been very similar, I should think, to a lawyer who came to see me some time ago and whose doctor had been treating him for "incomplete combustion of the fats in the stomach!" My patient was suffering from Meniere's disease. I was not suffering pain from "electrolytic dissociation," since the filling was removed, replaced by another, and the pain still persisted. Another visit to the specialist a week or two later, when another more or less thorough examination was made, which ended with a suggestion that I was neurotic. Even this diagnosis I was prepared to consider, but, in spite of autosuggestion, the pain persisted.

Later I went to Edinburgh, and, if I remember rightly, I went through the same examinations again without a diagnosis being made. In July, 1922, I returned to New Zealand, and was still tortured with the face-ache. More X-rays on arrival there were still negative. By this time the pain had become so bad that sometimes I began to wonder whether I was developing some anomalous form of tic doulouroux.

About this time I began to suspect that the last left molar in my upper jaw was the *fons et origo mali*, and decided to see a surgeon in another city before having the molar extracted or my sensory root divided. On the journey I stopped at a small town and went into a dentist after a severe paroxysm of pain and asked him to extract which I considered was the offending molar. He examined it carefully, stated that it was absolutely sound, and recommended me to see a doctor. The pain, as usually happens when one sits in a dental chair, had entirely gone, so I decided to continue my journey to see my surgical colleague. He recommended, of course, that the molar should be removed. The following morning the dentist remarked that it was a sound tooth, but I pointed out to him that only in the past few weeks had I sometimes been able to elicit an unpleasant sensation when I applied pressure to the inner aspect of the crown, but that sometimes there was definite pain. The tooth was removed and out gushed a quantity of most offensive pus. I remember a swab showed streptococci and I think also the B.C.C.

It is a long story, but I think it is worth the telling. I have seen several cases of face-ache and ear-ache where the dentist has reported the teeth as sound, and where he has had the support of negative X-ray films. In these cases I have found that firm pressure or tapping over a suspicious tooth, even if it only elicits a little tenderness, will justify the removal of that tooth and relieve the pain. There are refinements such as electrical, thermal and, maybe, other tests, but the pressure test has stood me in good stead.

Might I suggest that if one of the experts on the dental staff gave a lecture to medical and dental students, and discussed the diagnosis of such a case as my own, he would save many patients from a lot of pain.

Yours, etc.,

"ABEONA."

Taupo,
New Zealand.

Catarrhal Jaundice

To the Editor of the GAZETTE

SIR,—May I solicit the help of qualified and unqualified readers of the *Guy's Hospital Gazette* in a matter of both academical and clinical importance?

It is becoming evident that what is now frequently being titled catarrhal jaundice and found post-mortem to consist of mild primary hepatic and renal parenchymal necrosis is really a disease of the order of the "yellow atrophies." Since the condition of obstructive catarrh of the biliary channels is a recognised one and corresponds with Virchow's original description of the disease, it would appear a travesty of the fact to apply the title to an altogether different condition. An entirely false impression of the pathology of the real catarrhal jaundice is being given by repeated

descriptions of what is, in fact, mild and recoverable "yellow atrophy" or primary hepatic necrosis.

An article based on the recent fortunate access to materials in a case of the type giving rise to this inaccuracy will appear shortly in the *Guy's Hospital Reports*. Dr. A. F. Hurst has asked me to appeal in his absence to readers of this journal for support in the clinical aspects of this contention. He is firm in the belief that true catarrhal jaundice is not only a distinct pathological entity, but has, too, a very constant and characteristic clinical history which is lacking in many of the more recent cases recorded in various countries under that title.

May I ask those who have been unfortunate enough to suffer an attack of catarrhal jaundice to send me a concise account of the clinical history and course of the disease as it affected them, paying especial note to the presence or absence of symptoms or signs of gastric or enteric infection, and to the order of onset of the various changes. A reference as to the presence or not of anorexia is clearly of considerable significance.

Needless to say, such communications will be used in the most strict anonymity.

Yours, etc.,

C. KEITH SIMPSON.

Pathological Department,
Guy's Hospital, S.E.1.

Medical Mission in East London

To the Editor of the GAZETTE

SIR,—May I, through your columns, appeal for a doctor who is in the position to open a Medical Mission as part of the parochial work in this, one of the largest and poorest, parishes in East London? Should any of your readers be anxious to undertake such work, will he or she please write to me. Also any reader who may have time to spare for any kind of social or religious service—there is so much to be done here that I shall be glad to receive any help.

Yours, etc.,

R. G. LEGGE,
Vicar.

St. Mark's Vicarage,
Victoria Park, E.9.

Sport

Review of Rugby Season, 1932-33

IN reviewing the past season, it may be said that it was fairly successful; though in actual percentages it was not as good as the last two. We won 14 matches, drew 1 and lost 15. The adverse balance of losses is made up by scoring more points than were scored against us. We were to have played three more matches; two of these, against Cambridge and Gloucester, were scratched owing to frozen grounds, and the third, Plymouth Albion, owing to flooding of the ground after the snow.

The season started early in September. It is a pity that the rugger season starts so early for two reasons: (1) The grounds are so hard at this time that players are very likely to be injured, and (2) the Medical School is closed, and the players in the early part have to be drawn entirely from those working in the wards, which means that we are still trying to build up a side when the rest of the club sides are in full swing.

Fortunately, this season we were able to call on 13 of last season's players, though R. Eustace and W. H. Lewis, last year's halves, did not turn out very much. There were also several other players who had played frequently last year. W. H. Lewis played in five matches before Christmas before deciding that he could not play any longer.

In the first half of the season the backs were disorganised. We had difficulty in finding two halves, and an injury to Alexander made it difficult to settle the three-quarter line. When they finally did settle down, they proved to be a very strong scoring power and also good in defence. The new players were Bowles, I. K. Thomas, who played two seasons ago, and Wright, who proved to be a resourceful player and shows promise for the future.

Morgan, the Captain, led the forwards very well. The forwards were, perhaps, on the light side, but this fact did not excuse them from a certain amount of lethargy now and then. At times they could play very well indeed; this was brought out in at least four matches—Harlequins, Aberavon, St. Mary's Hospital and St. Bartholomew's Hospital (in the last two particularly)—when they were expected to succumb they gained the mastery.

We again won the Hospital Cup, which to a lot of people is all that matters. This, however, is not the right attitude. We have got one of the best fixture lists of any club, and it is important that we should keep it. If this is to be the case, we must win more of the Club matches. Next

year we will have Blackheath and Leicester after a lapse of some years, and the following year the Army, Navy and Aldershot Services have been included.

There was a certain amount of ill-feeling amongst the hospitals about scholarships, which, fortunately was amicably settled before the Cup matches started. An attempt is going to be made in the future to play friendly inter-hospital matches in the early part of the season.

In the first round of the hospital matches we met Middlesex. For this match we were several players short, owing to injuries and "flu." We managed to win fairly easily. In the second round we met St. Mary's Hospital. In this game we scored 9 points, including two penalty goals in the first half. In the second half they scored a goal and a try—8 points, and for a long time our supporters had some anxious moments when it looked as if they might score again at any moment. In the Semi-Final we met Westminster Hospital, which resulted in a complete run-over for us; we scored 24 points in each half. The Final was against St. Bartholomew's Hospital. From our point of view this is always considered the best Final, particularly as we have now met them six times in the Final and always won. We won this by a disputed drop goal and a try, but we were the better side. It was a very good game, being very keen, and the rugger was of a higher standard than is usually seen in a Cup Final.

It is possible that next year we will find ourselves deprived of several of this year's team. At the moment it looks as though it will be difficult to replace them. There were no very promising players from school this year. It was a pity, because a year in a junior team would have given them every chance to fill out before starting first-class club rugger.

The ground this year was in very much better condition than in previous years, and it has been well worth the money spent on it. The pavilion changes are also a great improvement, and the new bath adds to pleasure and cleanliness.

P. C. A.

Guy's Wanderers

FOR their second Easter Tour Guy's Hospital Wanderers again chose the West Country for their activities. In spite of preliminary difficulties in the form of late "vivas" and financial troubles, the tour carried a full team of rugger players and an indispensible entourage of non-playing members.

The main party started from the Hospital on the Good Friday; an advance guard, however, left on the Thursday, of which one car reached Torquay and the other satisfactorily got as far as Basingstoke. Everyone, however, foregathered at Wiveliscombe, which was to be the first headquarters. Here, unfortunately, the party had to be split up into two hotels, but a common meeting place was very soon found.

With regard to the rugger, we were not so successful, losing rather heavily to the Old Tauntonians. We travelled undeterred to our next headquarters at Bude and faced two games on the Monday. We were successful at Okehampton in the morning, but were defeated by Bude and Holesworthy in the afternoon. Playing on concrete grounds in the blazing sun was definitely a new experience to most of us, but nobody really minded.

The team was very fortunate in having as its captain N. L. Barber, who discharged his duties with the same enthusiasm which former members of the junior sides will remember. He was equally in form on and off the field, and did a very great deal to leave behind a favourable impression, to which letters from the respective clubs have testified. We were again entertained very well, and everyone seemed more than satisfied with their holiday.

It is hoped that now this tour will become an annual fixture, and that it will develop every year, even as the O.T.C. camps have done, into a meeting place for old Guy's men as well as new. It is remarkable how many Guy's men we found scattered around that district, and they all made a point of coming to see us.

S. R. W.

Hospital Information, etc.

Pass List

OXFORD UNIVERSITY.
April, 1933.
M.B.

H. J. B. Atkins — H. A. Treble

SOCIETY OF APOTHECARIES OF LONDON.
April, 1933.
PRIMARY EXAMINATION.
Materia Medica.
C. C. Becker.
Physiology.

H. P. de Costobadie — F. J. D. de Marigny

Changes of Address

J. Croot, M.B., B.S., M.R.C.S., Union Building, Hong Kong. *Telephone* 28002.

H. E. Edney, L.D.S., 2, Sheen Gate Gardens, East Sheen, S.W.14. *Prospect* 1635.

J. C. Wharton, M.R.C.S., L.R.C.P., 66, Bloxham Road, Banbury, Oxon.

Marriage

WHARTON—DINGWALL.—On 8th April, 1933, at St. Stephen's Church, Prenton, Cheshire, John Christopher Wharton, of Banbury, Oxon., to Gertrude Margaret Dingwall, of Prenton, Cheshire.

EDS. { M. J. McA. / C. G. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

IN a recent "Passim" we said we had heard that two surgical registrars were to be reserved for diagnosis and two for treatment and we emphasised our incredulity of this rumour by punctuating it with an exclamation remark. "Two for teaching and two for operating," we heard the wags murmur, "Why not two for prognosis and two more for after-treatment or pathology?" What we thought was idle gossip over the beer in the dressers' room was more probably serious conversation over tea in the Surgeons' Room, for we now hear that it is soon to become law.

For such a drastic change there must be a very strong reason, and we suppose this must be a desire to improve the standard of surgical teaching and efficiency at Guy's. We fear, however, that it may have the opposite effect, by impairing the unity of the surgical firm which has played an essential part in maintaining such a standard in the past. Surely no present or past Guy's man can have anything but admiration for the team work and loyalty of the surgical firm. That one registrar only is attached to each firm is an important factor in maintaining this, for he is the link between Staff and student. He teaches the clerks, assists his surgeon and, during Take-In week, is resident, so that he can advise the House Surgeon and operate when necessary. By intimate contact he knows his ward clerks and dressers as no one else in authority knows them, and no one who has ever been in the dressers' room can deny the friendly atmosphere that exists between registrar and H.S. To the beginner it is often the small tips that are most valuable, and who is more likely to give these and smooth over the surgical wrinkles than the man on the spot? Such help is just as important as the knowledge acquired on rounds, as it cannot be found in the text-books. On his round the Registrar has at most six ward clerks, so that a high standard of teaching is possible for each student can examine the cases thoroughly, methodically, and without hurry. More important still, the registrar can with confidence outline the treatment which will be carried out, knowing the "Chief's" views and sure that they will be followed at operation either by the surgeon himself or under his supervision. This makes for clearness, for the student learns one definite line of treatment with which he can compare later opinions. By these means the surgical treatment at Guy's has always been simple and, above all, practical. Consequently, our Pass Lists in Surgery examinations are proportionally higher than the average of other hospitals. No one can impeach the present regime on that score.

Under the proposed scheme of two registrars for teaching and two for operating, each will deal with twice as many men. The intimate touch of which we spoke will be more difficult to obtain. The teaching rounds will be twice as large, and will, therefore, tend to be half as efficient. Everyone knows how difficult it is to look at a case with the next man in the queue pressing forward to the objective and another examining from the wrong side of the bed. It is fair neither to patient nor teacher, and it is disastrous for the ward clerk. Not only will his opportunities for diagnosis be hampered, but his view of treatment and operative technique will be clouded. He may be taught one method in the morning, possibly to see the surgeon use another in the afternoon, and the operating registrar yet another in "Take-In" week.

At present the four registrars are fully occupied both teaching and operating. The two who are to be active will be relieved of teaching rounds, but these take place in the morning when little

operating is done. The rest of the day they will have twice as much to do, and, in addition, they will have to be resident every other week instead of every fourth. This would seem extremely hard to any who were married. Our sympathy is more, however, with the two who are to be inactive. Is there to be any guarantee that after the period of apprenticeship as teacher the prospective surgeon will be promoted to handle a knife as operator? Otherwise this time will be wasted, as during it there will be no time for him to obtain outside surgical experience unless he neglects his teaching responsibilities, and at the end of it he is unlikely to get a surgical appointment on his ability merely to talk well on the subject.

The end result would seem to be that the Hospital will turn out two surgeons where before she turned out four. This will surely not add to the prestige of Guy's Surgery. It has always been our boast at Guy's that our teaching was more practical than theoretical. One hears with pride that in the outside world the Guy's man is known to be one who can be relied upon to act rather than talk in any emergency. This is due to the Hospital's policy of giving her sons as much experience as possible without jeopardising the interests of her patients. We cannot feel that this proposed change is in accord with this tradition, of which we are justly proud.

▭

WE offer our heartiest congratulations to the following Guy's men on their election to Fellowships of the Royal College of Physicians :—

G. B. Dowling, Esq., M.D.
C. C. Worster-Drought, Esq., M.D.
A. A. Osman, Esq., D.S.C.
H. Barber, Esq., M.D.
A. C. Hampson, Esq., M.C., M.D.
J. A. Glover, Esq., O.B.E., M.D.
G. F. Buchan, Esq., M.D.

Also to P. M. Moffatt, Esq., M.B., and R. L. Waterfield, Esq., M.B., on obtaining their membership of the College.

▭

ONCE again the Jumble Sale of the Guy's Hospital Ladies' Association turned the quiet of the Surgical Quadrangle into the bustle of an Oriental bazaar. Once again the old games of throwing the dart, banging the nail, knocking the cocoanut and identifying the cast-off garments of the Staff were in full swing. In addition, the jumble was all sold or secured with amazing rapidity. Apart from one shower of rain, which freshened up the usual copse of aspidistras and precipitated a rapid sale of umbrellas, the weather was fine, and within an hour or two about a hundred and twenty pounds had been gained for the good cause. The popularity of these sales, both for those who acquire and those who discard, makes one wonder whether they could be held more frequently. Possibly a jumble shop or depot where material could be sent and sold at regular intervals would serve a very useful purpose, and gather still more funds to the Ladies' Association.

▭

WE have been asked to draw our readers' attention to the Dance to be held in aid of the Royal Medical Benevolent Guild on Thursday, the 25th May, particulars of which are given in this *Gazette*.

Fees in General and Consulting Practice

A Clinical Lecture delivered at Guy's Hospital on April 28th, 1933, by A. H. Douthwaite, Esq.

GENTLEMEN,—As a student one gained the impression that the medical profession, and in particular its consultant section, gave no thought to the subject of fees. It came as a surprise on leaving hospital to find that, far from there being a lack of interest in such mundane matters, they formed the topic of conversation sooner or later in nearly every informal gathering of medical men. Not only is the superbly aloof attitude hypocritical, but also it is harmful to the medical student who is released from the sheltering walls of his own hospital into a world where he may be bilked on the very first day of practice.

The attitude of the profession towards fees has been like that of the Victorians towards sex—publicly refusing to admit of its existence, privately being very much occupied with it. The profession has been taken at its face value, and is now reaping its reward by being offered public appointments at wages little better than those paid to shop-walkers. Since giving some lectures here on General Practice, I have been asked by many colleagues and by students to go further into the matter of fees, and that is my purpose to-day. First of all let me remind you of those people who should not be charged for professional attendance. They are doctors, doctors' wives and widows, doctors' families so long as they are dependent on the father for support, nurses who are actually working for a living, and medical students. The

arrangement in respect of dentists is not such a fixed one. It is usual to attend one's immediate dental colleagues and families without question of fee, unless both doctor and dentist agree to pay each other fees (always reduced), so that there shall be no reluctance to call upon each other's services. There is a good deal to be said for this arrangement, because a medical man with several children will hesitate to have himself and entire family overhauled at regular intervals by a dentist, feeling that he is making an undue demand upon his time.

Discrimination must be used when dealing with the clergy. Many of them are wealthy and have entered the Church just to have some sort of occupation. They should be treated as ordinary patients. Those depending upon their livings for sustenance should be charged little or nothing. I do not include, of course, the livings of archbishops, bishops and deans.

Now when you start in practice fix a standard fee for visits and for consultations at your house. The level will be determined by the type of practice and advice from your partners. Let us suppose that 10*s.* 6*d.* is your visiting fee. Never raise this just because a patient is wealthy. This is an objectionable and widespread practice comparable to that of the small shopkeeper at the seaside who raises his prices for London visitors if apparently affluent. There is no justification for penalising a rich man for being rich. Incidentally, if he is rich as the result of his own efforts he will see to it that you don't succeed. If, of course, your visit is unnecessarily prolonged by the patient's demands on your time, and some patients do think that they have bought you body and soul, then, of course, charge more, *e.g.*, £1 1*s.* 0*d.*

Having fixed your standard visiting fee, the consulting fee is usually half to three-quarters of this amount; you must, of course, be prepared to charge considerably less to poor people. This is where you have got to be on your guard at first. Many patients do not hesitate to ask for special consideration on account of the war, or the slump, or whatever happens to be a popular excuse at the moment. One's tendency is to acquiesce rather than resist, but you ought not to do this if you are convinced that the patient can well afford to pay the usual fee. You, as general practitioners, see these people in their homes and in their social life, and you can form a very good opinion as to ability to pay.

In the course of your work you will need from time to time to carry out special investigations, *e.g.*, blood counts, test meals and so on. These take up time and demand that special degree of practical experience which is the peculiar characteristic of graduates from this hospital. Extra fees should, therefore, be charged. To give you concrete examples: a complete blood count would command a fee of about three guineas, and a fractional test meal five guineas in general practice. Never fail to inform your patient of the necessity of such special examinations and of their cost. A great number of bad debts arise because patients feel that they have been unfairly charged. The young doctor is specially liable to make the mistake of never discussing fees with his patient. I assure you that with very few exceptions everybody is anxious to know how much he is "letting himself in for." If he does not ask you it is because of this peculiar attitude of mind engendered by the profession that money should never be spoken of to a doctor. This will not prevent him from writing about it if he feels that he has been overcharged. The standard mileage fee for the general practitioner should be 10*s.* 6*d.* for each mile of the outward journey only. Again, never charge above the standard, but be prepared to drop below it.

Night fees, *i.e.*, calls after 10 p.m., should in general be more than the usual visiting fee. If the call is genuinely urgent an increase of 50 per cent. is adequate. If it be frivolous, as most of the night calls are, charge twice to four times the day fee, according to circumstances, including the time of night. A patient may query a sum of two guineas for a single visit, not appreciating exactly what a 3 a.m. call means to a weary doctor. A story, for the veracity of which I cannot vouch, is that a doctor, being faced with such a complaint, set out his account in full, rather in this manner:—

	s.	*d.*
To being awakened by telephone at 3 a.m.	5	0
To getting out of bed and waking wife.....	5	0
To disturbing baby in shutting front door and thus destroying peace of household	7	6
To catching cold whilst driving half-clothed in answer to urgent call	10	6

and so on. By the time all the items were set out it appeared that the actual charge for attendance was 2*s* 6*d.*

There are many other special fees—I can only mention a few. Thus, attendance at operations, accompanying patient to a consultant's house, anæsthetics and so on. If in doubt, base the amount on the fees you would have earned in ordinary visits during the time spent performing the special service.

Midwifery in general practice does not pay. On the other hand, except in the West End of London, it is unwise to divorce midwifery from the rest of your work. With the baby goes the

family. Fortunately, midwives are taking over more and more of this work. If you accept a case, always quote a fee to cover ante-natal care. You will then have a free hand to do conscientious work without fear of accusation of " fee catching." Considering the amount of time expended in these cases, ten guineas can be regarded as an extremely reasonable inclusive fee. Often you will get much less.

CONSULTANTS' FEES

These present no difficulty as regards standardisation. The fee payable at a consultant's house is three guineas unless otherwise specified on the appointment card. That incurred by calling a consultant to the patient's house is five guineas for any part of London within a five-mile radius of Charing Cross and a guinea a mile on the outward journey for any distance in excess of this. Naturally, fees have often to fall below these standards, and the reduction is made entirely on the recommendation of the general practitioner. It is he who can form the best opinion as to the patient's ability to pay. There are a few practitioners, usually inexperienced, who ask for reduced fees not out of necessity but in order to do the patient a good turn or for fear of losing the patient if he does not do a little bargaining for him. This is dishonest and feeble. The general practitioner is the go-between of patient and consultant. The latter accepts his word absolutely and his position is, therefore, one of trust. Looking at it from another angle, the practitioner likewise relies upon the consultant to help him to his utmost. I don't mean merely in the matter of diagnosis and treatment, but in all the small but tremendously important contacts with relatives and friends. A carelessly framed remark by a consultant may do the practitioner irreparable and entirely undeserved harm. Harmonious working, of which I have written before, is, therefore, essential. It is that which differentiates the consultant from the " consultoid." By the latter I mean those whose only claim to consultant standing is sufficient funds to have a consulting room in the Harley Street district, and whose aim is to attract and keep any patient who gets into their clutches. There are many of these ; you will find them out in time.

A consultant's fees, whether at his house, the patient's house, or at a nursing home after an operation, should be paid at the time. Nothing is easier than for the family doctor to arrange for the fee (always do this when fixing up the consultation, not when it or an operation is over), and then tell the patient that it should be forthcoming. Nothing is more unpleasant than the consultant having to do this himself.

In conclusion, one word about dichotomy or fee-splitting. It is a revolting practice unworthy of even the highest of business morals. It is grossly dishonest and, by the way, illegal.

Obesity

A Paper read before the Guy's Hospital Physical Society by B. M. McArdle, Esq.

" Fat paunches make lean pates, and dainty bits
Make rich the ribs, but bankrupt quite the wits."[1]

IF stupidity were the sole outcome of obesity, it would hardly have been sufficient warrant for this paper, but obesity is a fertile, if indirect, cause of disease, and the future of medicine lies in prophylaxis. During recent years medicine has allowed Fashion to outstrip it easily, and too many people reduce for the sake of their figures rather than for their health. Much of this excessive slimming is, as you know, highly dangerous, but, on the whole, the tendency is to be admired, and we can only regret that those for whom it is most desirable are precisely those who need no longer bow to the dictates of fashion. There is always something to learn from the development of fashion, and in the following paper I hope to amplify the warning that I read to you from " Love's Labour Lost " and to show you he end resu lt of corpulence both on physical and mental capacities.

DEFINITION

Obesity is the excessive accumulation of fatty tissue in the body. The vagueness of the adjective " excessive " makes the definition unsatisfactory, but it has the merit of being short and simple. The degree of overweight usually considered as being excessive is 15 per cent. above the calculated ideal weight. The calculated ideal weight can be judged either by referring to tables compiled by insurance companies or by calculating it from a variety of formulæ which are available. Broca's formula—

Body weight (in Kg.)=height (in cm.)—100,

despite its simplicity, shows a surprising conformity to the life insurance statistics. Oder's formula is a modification of Broca's, using instead

of the height the so-called proportional length of the body, *i.e.*, twice the distance from the vertex to the middle of the symphysis pubis. In females he introduces the circumference of the chest in the formula :—

$$\frac{\text{Body weight (proportional length—100)} + \text{prop. length} + \text{average } \frac{\text{circumference of chest}}{240}}{2}$$

The general inspection of the patient is obviously of far more value in deciding the degree of overweight present.

An increase in weight of ten pounds usually occurs between 30 and 40 years of age, and the same or even greater increase during the following decade. There is no adequate reason why it should occur, but it is so universal that it might almost be thought to be physiological. This increase tends to occur at an earlier age in women, often coinciding with the menopause or, in those in whom it occurs earlier, after a period of overfeeding in an attempt to increase lactation.

It is most unusual to see an obese person over the age of 70. This is due to the fact that after the age of 55, owing probably to deficient absorption, the weight usually begins to fall. Death, however, is most to blame for their rarity at that age. Statistical experience shows that after the age of 40 there is a very appreciable decrease in the expectation of life for those of 15 or more pounds overweight. Curiously enough, the expectation of life is greatest for those who are 15 pounds overweight during the age periods 20-35, after which the optimal weight is 10 pounds below the average, increasing to 15 pounds after 50.[2] This increased mortality rate is mainly due to the susceptibility of the obese to certain diseases and to the increased liability and diminished resistance to infections of all kinds.

Corpulence and hypertension walk arm in arm, Master and Oppenheimer[3] finding them associated in 67 per cent. of cases of obesity. The blood pressure varies with the degree and duration of the obesity. They found a characteristic X-ray appearance of the heart with a raised diaphragm, an enlarged widened heart and a hazy left border due to pericardial fat. The electro-cardiograms showed inversion of the P and T waves in lead III. They were in conformity with the life insurance statistics in finding the exercise tolerance decreased in all save those under 30, in whom it was increased. Deaths from heart disease are three times more common in the fat than in the lean, while the number of deaths from renal disease is twice as common.

Even more definite is the relation between overweight and diabetes ; 70 to 85 per cent. of diabetics, according to Joslin,[4] give a previous history of obesity prior to the onset of the glycosuria. In a series of over a thousand diabetics, well marked obesity was a precursor in 40 per cent. Put another way, Joslin's statistics show that the obese are more than six times as likely to develop diabetes than are the under-nourished.

Allison[5] found that 14 per cent. of a series of 121 obese patients had glycosuria, and in 9 out of 12 cases of simple obesity on whom he did a sugar-tolerance curve, the fasting blood sugar was above .12 in 9, with a maximum height of above .2 in 6. The decreased carbohydrate tolerance is probably dependent on the length of time the obesity is left unchecked. It may be, as Parkes Weber[6] believes, that the only relationship between the two diseases is that they both tend to run in the same families and that the two metabolic disorders tend to occur in the same individual.

There is no need to elaborate on the association of cholecystitis and gallstones with obesity, nor of the woes of the surgeon who has to perform an abdominal operation (often a strangulation) through three inches of fat. Diagnosis is more difficult, operative technique has to be modified, and post-operative complications are far more common.

CLASSIFICATION

For purposes of classification obesity has been divided into two main groups, exogenous and endogenous. Where the obesity is primarily due to an excessive indulgence in food and drink or to too little exercise, without any gross metabolic abnormality, it is said to be exogenous. Obesity of this type is too often the result of a vicious circle. Too fond an indulgence in food and alcohol saps the energy as it increases the bulk, less exercise is taken, and a greater increase ensues. Endogenous obesity is produced by some abnormality in the primary controlling centres—the endocrines and the hypothalamites. This classification is convenient for description, but the two groups have a considerable degree of overlap. A third type, the so-called " constitutional " obesity, has been described in which, although the exogenous element may be marked, there does appear to be some metabolic abnormality partially accounting for it. 70 per cent. of obese patients have had either a father or mother who was inordinately stout.[7] In this type the family history is even more marked. Constitutional obesity is most conveniently described under the heading of exogenous obesity.

RELATIVE FREQUENCY OF THE TWO TYPES

Like the paronoiac who sees the machinations of his enemies in every simple action or event, so the enthusiastic endocrinologist is too apt to see the influence of his beloved hormones in every case of obesity. Equally to be condemned is the type who refuses to recognise their influence in all but the most gross and outstanding examples of endocrine dysfunction. Others stress the importance of the cerebral factor, and maintain that improper functioning of the hypothalamus is responsible.

Tileston[8] believes that 99 per cent. of the fat belong to the exogenous class. Newburgh[9 10] also takes the extreme view and does not consider there is any specific metabolic abnormality and that the increase in weight is merely due to an intake of energy that is greater than the output. The myxœdematous patient, he maintains, is fat because he needs less calories than he did before, and because he has failed to adjust his appetite to the lessened demand. He appears to be laying too much stress on the direct cause of the obesity and forgetting the underlying factors which led to the decreased energy output. "The laying-on of fat," he says, "is the outcome of a perverted habit. The normal person unconsciously provides his body with stores of energy that accurately replace his energy losses. He possesses a mechanism that notifies him when he has eaten enough. At this point his desire for food ceases abruptly. The obese members of the first group (*i.e.*, the exogenous), through long training have come to require stimuli of greater intensity before they feel satisfied, or else they deliberately disregard the warning in order to continue a little longer the pleasures that come with eating. . . . The mental make-up of these people resemble that of chronic alcoholics." While this is true of a considerable proportion of the corpulent, it is severe on those who, exercising more and eating less than their neighbour, nevertheless succeed in putting on three pounds to his one.

Goldblatt, Smith and Gardiner Hill[11] consider that pure gluttony is of small importance in the ætiology of the complaint, and in their series of short of 200 cases, attribute only 23 per cent. to the exogenous group. They classify as endogenous any who deny over-eating, and date the onset of their obesity as being from birth, puberty, the onset of menstruation, or after childbirth or miscarriage. Dunlop and Murray Lyon[7] in their series of over 500 cases thought that 37 per cent. were probably exogenous, 8 per cent. were definitely endogenous, and the remainder they considered as being mixed. The diagnosis was made on history alone, as physical examination never revealed any abnormality. They found the ovary played the largest role in the production of obesity of the mixed type, although of the 523 cases only 20 were definitely ovarian. Castex and Scheengart[12] thought 80 of 100 cases were endogenous, hypothyroidism accounting for 15 per cent., pituitary and genital for 13 per cent., genital for 12 per cent. and thyroid and pituitary for 3 per cent.

Although there is so much disagreement about adult obesity, the concensus of opinion favours the juvenile type as being mainly endogenous. Here opinions are sharply divided between the hypothalamus and the endocrines. Rouy,[13] Nobecourt[14] and Bernhardt[15] are in favour of the former. Rouy makes the following rather sweeping statement: "The ætiology of obesity, juvenile or adult, exogenous or endogenous, is apparently uniform; it is a disturbance of the mechanism that regulates the body fat content and is probably hypothalamic in origin."

EXOGENOUS OBESITY

There is little that can be said about true exogenous obesity. It is the result of too much food and too little exercise. The active young man with advancing years fails to make allowance in his appetite for the greatly diminished amount of exercise he takes. Quite frequently the quantity of food is not at fault, but there is some dietetic error, as, for instance, an excessive indulgence in the more concentrated carbohydrate foodstuffs.

Everyone is familiar with the type of person who, frugal in his diet and active in his habits, yet manages to acquire a double chin and a paunch before 50, and with his converse who preserves his waistline thought grossly overfeeding. That there must be some differences in their metabolic processes is self-evident, but, though certain anomalies have been found, they have not been proved sufficiently to gain universal acceptance.

The total daily metabolism is made up of three components:—

(*a*) The basal metabolism.

(*b*) The amount of energy necessary for the muscular work of the day, and

(*c*) The specific dynamic action (S.D.A.) or the surplus amount of heat produced as the reaction to the intake of food.

Assuming the intake of food to be constant, a decrease in any of these factors without a compensatory increase in the others will lead to the deposition of fat. Van Noorden believes that this compensatory mechanism does not exist, and he says that the ingestion of even three pats of butter per day in excess of the metabolic requirements of

the individual would lead in the course of a year to a gain in weight of 24 pounds.

The theory of "Luxus Konsumption" attempts to explain the maintenance of a stable weight in those who obviously overeat by supposing that the excess of nourishment is slowly oxidised and is not stored in the body. This involves an increase in the basal metabolism, and there is some slight experimental evidence to show that this does occur. In an overfed dog it was found that the B.M.R. was increased by 40 per cent.[16] Grafe and Koch[17] found that there was an 80 per cent. increase in the B.M.R. in a man who had been fed on a high caloric diet for six months and had put on 20 kilos. in weight. Coincidently there was an increase in the S.D.A. of protein of from 26 to 67 per cent. The converse has been conclusively proved—that is, that there is a decrease in the B.M.R. during starvation. One could understand that, if this mechanism were deficient, it would result in the production of obesity, but Poulton,[18] Grafe and others believe that it does exist in the obese.

The basal metabolism of the obese is normal, according to Bernhardt, in about 65 per cent. of cases, raised in 25 per cent. and lowered in 10 per cent. These figures are in conformity with the majority of workers on the subject, though others consider the basal metabolism to be lower in a greater percentage of cases. Poulton, however, points out that in most cases the B.M.R. is normal when related to body weight, but that when it is related to their calculated ideal weight the B.M.R. is increased. The fallacy, he thinks, lies in the fact that the surface area is increased by a tissue with a very low respiratory exchange. He concludes, therefore, that in most cases a condition of mild hyperthyroidism is present. Bernhardt, while agreeing that the B.M.R. is usually normal, thinks, nevertheless, it is responsible. The B.M.R. taken in the morning does not constitute, in his opinion, the minimum basal rate. He determined the B.M.R. at short intervals during the day and found there were frequent periods when the B.M.R. is less than that taken in the morning. He refers to these as negative phases, and found they were most noticeable after light muscular work, after the intake of food, and during sleep. These negative phases last for one to two hours at a time and balance any positive phases due to mild activity. They were more frequent and of longer duration in the obese than in normals.

An economy of muscular energy during the performance of work might be a possible factor, but Strang and Evans[19] have shown that the energy expenditure is greater, and, except for those under 30 with only a mild degree of overweight, their mechanical efficiency is well below normal.

The only remaining factor is the specific dynamic action (S.D.A.) of the food. This is negligible in carbohydrates and fats. In exogenous obesity of the constitutional type and in some cases of endogenous obesity the S.D.A. of protein is appreciably lowered. In hypothyroid and gonadal obesity the S.D.A. is normal, but in hypopituitarism it is lowered. Plant[20] and Knipping[21] found that in both hypopituitary and constitutional obesity the injection of an extract of anterior pituitary raised the S.D.A. to normal. Plant and Liebesny[22] believe that the decrease in constitutional obesity is associated with a disturbance of function of the anterior lobe. Lanter,[23] Dubois,[24] Newburgh and Johnston do not think there is any appreciable difference, and most authorities believe that even if there is a decrease it is not of sufficient degree to account for any great increase in weight.

Whether or no these anomalies provide the immediate cause of obesity, they only put the explanation a stage further back. Bernhardt believes some cerebral abnormality in the region of the hypothalamus or tuber cinereum is accountable for these anomalies. Kraus and Traube[25] found that patients with constitutional obesity had a marked increase of the basophil cells in the anterior lobe of the pituitary, though whether this confirms or confutes Plant and Liebesny's theory that the anterior lobe is responsible is not certain. They noted the same increase in those of a "hypersthenic habitus" or with essential hypertension or vascular sclerosis.

The distribution of exogenous obesity is too well known to need description.

ENDOGENOUS OBESITY

Every endocrine gland in the body, except for the parathyroids, would appear at first sight to be responsible for the production of some form of obesity, but it is probably that only two or three of them are actually capable of doing so. This is due to the close inter-relationship of the endocrines. The most strongly established is that between the anterior lobe of the pituitary and the gonads, particularly the ovaries, but it has little bearing on obesity, though it is responsible for the genital dystrophy associated with Frohlich's syndrome. The suprarenal cortex can also participate in this relationship, and the cortical tumours of this gland provide an interesting problem as to which gland is responsible for any one symptom. Hyperplasia or tumour of the suprarenal gland is associated according to Moehlig[26] with an increase in

the number of basophil cells in the anterior lobe of the pituitary, and he attributes the obesity, hypertrichosis and polycythæmia present in these lesions to secondary involvement of the pituitary.

Castration is followed by similar changes in the pituitary. The reverse may follow, a basophil adenoma with secondary suprarenal cortical hyperplasia being a comparatively common finding. Similarly, hypoplasia of either of these glands results in the corresponding atrophy of the other. The relationship, however, is complicated by the experiments of Moehlig, who found that bilateral adrenalectomy in dogs produces a marked basophil hyperplasia in the anterior pituitary. The pseudohermaphroditism and precocious puberty associated with tumours or hyperplasia of the suprerenal cortex afford a striking example of the influence of the suprarenal cortex on the gonads, though even this may be due to secondary involvement of the pituitary.

THE RELATIONSHIP OF THE HYPOTHALAMUS AND THE PITUITARY

The thyroid has lost favour with those interested in obesity, and the spotlight has been focussed on that part of the brain immediately behind the optic chiasma. It has wavered a little, however, first the pituitary being most in the limelight and then the hypothalamus, but, more recently, there has been a tendency for it to swing back to the pituitary.

Pituitary obesity was first put on an experimental footing by Cushing in 1909, when he successfully removed the pituitary from dogs and noted the resultant tendency to adiposity, which he thought was due to the increased carbohydrate tolerance which also ensued. P. E. Smith[27] later showed that accurate hypothalamic puncture in the rat without any possibility of injury to the pituitary results in extreme obesity. It was thought that the obesity which followed Cushing's early operations on the pituitary might have been due to coincident hypothalamic injury. The pituitary seemed to be finally discredited when Smith[27] removed it from rats and cachexia, instead of obesity, developed. Cushing,[28] however, clings to the conception of the posterior lobe being antagonistic to the deposition of fat, and quotes Coope and Chamberlain, who found that subcutaneous injection of posterior lobe extract leads to the accumulation of fat in the liver within eight hours, whilst others have found that a decrease or disappearance of the blood fat and a diminution in the total fat of the peripheral tissues. The disappearance of the fat from the blood, Raab[29] found was more marked if minute doses of pituitrin are injected into the ventricles. Mechanical destruction of the tuber cinereum, transection of the cervical cord, section of the splanchnics, or drugs which paralyse the heat centres abolish this effect of the pituitrin. The extract was supposed to have stimulated the nervous centre in the tuber cinereum, whence the impulses pass by the descending hypothalamic bundles to the cord and via the sympathetic to the liver. Raab found that any upset of this mechanism would lead to the accumulation of fat in the tissues. Cushing also cites cases of chromophobe adenomata of the pituitary producing obesity where there can have been no question of any interference with the tuber cinereum.

Anatomically there is a very close connection between the pituitary and the hypothalamus. Popa and Fielding[30] have described a portal system of vessels which collects blood from both lobes of the pituitary and redistributes it to the hypothalamus. Greving and Pines[31] have been able to trace numerous non-myelinated nerve fibres from both the supra-optic and paraventricular nucleii in the hypothalamus to the posterior lobe and pars intermedia. Lesions of the paraventricular nuclei which are situated in the tuber cinereum are thought to be responsible for the production of hypothalamic obesity.

The view is now gaining ground that it is neither the posterior lobe nor the hypothalamus that is responsible for most cases of so-called pituitary obesity, but that hyposecretion of the anterior lobe is to blame. This view is hard to correlate with those cases of obesity associated with basophil hyperplasia or adenoma, with Smith's experiments on rats, or with the known fact that hyposecretion of the anterior lobe is often associated with cachexia.

It is difficult to draw any definite conclusions from the welter of conflicting and confusing statements about the relationship of the pituitary and hypothalamus to obesity. Both clinically and experimentally there is justification for saying that lesions of the hypothalamic nucleii in the region of the tuber cinereum are capable of producing obesity, but there is only clinical evidence for assuming that the pituitary is also capable.

SYMPTOMATOLOGY AND PATHOLOGY OF ENDOCRINE OBESITY

Cerebral Obesity.—There is no distinctive distribution of the fat in obesity of hypothalamic origin, although the clinical picture is often closely allied to that of Frohlich's syndrome. The ætiology of cerebral obesity is extensive and increasing as possible causes are being recognised. They may be divided into those exerting their

effects from a distance, as, for instance, some cerebellar tumours or some old standing meningitis leading to a long-continued hydrocephalus, or they may be due to direct involvement of the hypothalamic nucleii either by pressure or destruction. Such causes are tumours arising in the third ventricle, encephalitis lethargica, syphilitic, or any old standing meningitis. Of the tumours of the third ventricle the chiasmal gliomas which occur mainly in children are remarkably constant in giving rise to adiposity, Cushing having observed it in 80 per cent. of cases. The cause, which is probably best recognised is that due to encephalitis lethargica. When obesity has been a marked feature, the changes in the hypothalamus have been of a mild nature, severe changes being unassociated with obesity. It may be followed by cachexia, or it may disappear with recovery from the disease. According to Stern[32] it is usually an early symptom. Eaves and Croll[33] could find little histological change in the pituitary in these cases, except an unusual increase in colloid in the posterior lobe, which they considered might be due to a possible stasis of secretion.

A congenital and familial form of cerebral adiposity has been described under the cumbrous title of the Lawrence-Moon-Biede syndrome. It is characterised by obesity and genital dystrophy of the Frohlich type, mental deficiency, retinitis pigmentosa, and frequently polydactylism. Partial nerve deafness, atresia ani or other congenital abnormalities may occasionally replace one or other of the symptoms already mentioned. Only one case out of the 77 described[34] has come to autopsy, and in this case nothing abnormal was found.

The ætiology thus abounds with theories, mainly tracing the hypothalamus or the pituitary as the source of the disease. The pituitary has been incriminated largely on account of the adiposo-genital dystrophy, and the undoubted response of some of these cases to pituitary extract. Similar improvement has been obtained with thyroid or ovarian extracts in a few cases. Ornsteen[35] offers the explanation that there is a genetic defect in the prosencephalon giving rise to the adiposo-genital dystrophy, retinitis-pigmentosa and mental deficiency associated with congenital abnormalities elsewhere.

(*To be continued.*)

Some Physico-Chemical Aspects of Local Anæsthesia

A Paper read before the Dental Society, Guy's Hospital, on Monday, April 24th, by E. Matthews, Esq., Ph.D., M.Sc., L.D.S.

MR. CHAIRMAN and GENTLEMEN,—I propose this evening placing before you for your consideration certain physical characteristics of solutions in general which have in the case of local anæsthetic solutions an important practical application.

The physical factors involved are numerous, but for the purposes of this short paper I will confine myself to three, namely :—

(*a*) Isotonia.
(*b*) Isohydria.
(*c*) Surface tension.

It has been shown by various workers that these factors are of more than theoretical significance, their proper regulation being a necessary condition in the avoidance of post-operative pain.

Practitioners are, for the most part, prepared to accept the products of the drug houses almost without dispute, and while in many cases their confidence is justified, yet it is certain, however, that some benefit would accrue from a greater understanding of the underlying theory.

The great aim of the operator, you will agree, is to produce, as far as possible, perfect anæsthesia leading to painless extraction or other surgical interference *and* minimal after-pain. To this end I should like to stress the need for such local anæsthetic solutions to be both isotonic and isohydric with the body fluids and to exert a minimal surface tension.

It is on these points that I propose to dilate in an attempt to help you towards a greater appreciation of their significance.

Let us first consider—

ISOTONICITY

Isotonicity of the local anæsthetic solution demands that the dissolved solids of the solution shall exert an osmotic pressure equal to that exerted by the body fluids. In other words, the

injected solution will be in immediate osmotic equilibrium with the body fluids so that, as you can well appreciate, there will be a minimal disturbance.

If, however, the injected solution be hypertonic with respect to the body fluids, it is said to have a higher osmotic pressure, and, in consequence, migration of water from the tissues surrounding the injected area will take place leading to a considerable disturbance, with possible damage, due to shrinkage or distension of the cell membranes, and this presumably has its sequal in post-operative pain.

When the injected solution is hypotonic with respect to the body fluids, transference of water takes place in the opposite direction to the above, *i.e.*, from the injected area to the surrounding tissues, and here again excessive disturbance may result in after-pain.

Having established the need for isotonicity, let us now turn our attention to the solution itself and investigate the means whereby isotonicity is obtained.

I will consider simply a novocain-adrenalin-Ringer solution such as is used in this hospital. As you are aware, the common method of preparation of the solution is to take about 5 c.c. of Ringer's solution, boil it, and drop in one E and one F tablet. Oftentimes two E's and one F, or two E's and two F's, are employed in quantities of Ringer's solution varying from 4 to 8 c.c., depending upon the inclinations of the operator. These grossly approximate methods are to be deprecated, and in this connection the dresser may consider himself fortunate in that he so rarely sees the patient after extractions have been carried out, and is, in consequence, blissfully unconscious of the post-operative agonies endured by the said individual. Surgical trauma may be an important factor, but one cannot lay the entire blame at its door.

Continued boiling, apart from other considerations, will lead to excessive concentration of the solution, thereby rendering it increasingly hypertonic.

An important point generally overlooked is that if the Ringer's solution be already isotonic with that of the body fluids, the addition of novocain to form a 2 per cent. solution will, by reason of the osmotic pressure which the latter itself exerts, immediately render the solution hypertonic.

It is possible to calculate the osmotic effects of the different solutions, and it is instructive just to consider them for a moment.

	Atmospheres
Normal saline has an osmotic pressure of	6.9
Ringer Locke „ „ „ „ „	7.5
Hospital Ringer „ „ „ „	7.4
Novocain 2 per cent., in water, has an osmotic pressure of	1.65

You will appreciate from the above that the osmotic pressures exerted are of no mean order.

True isotonia can only be obtained, therefore, by taking cognisance of the fact that novocain exerts its own osmotic pressure and allowance should be made for this by a reduction of the salt content of the Ringer solution used. Adrenalin occurs in such a low concentration that for all practical purposes its osmotic pressure may be ignored.

Let us now turn to the second point of this paper, namely—

ISOHYDRIA

Isohydria implies solutions which have equal hydrogen ion concentration. You have all doubtless heard of the much-used term pH. As you are probably aware, pH is a convenient means of representing hydrogen ion concentration, the latter being in its turn an index of the degree of acidity of a given solution.

The range of pH values is from about .3 to 14.2. A pH value of 6.8 corresponds to exact neutrality; values below this are indicative of increasing acidity, above of increasing alkalinity.

It is doubtful whether sufficient emphasis has in the past been placed on the need for local anæsthetic solutions being isohydric with the body fluids. In this connection an interesting paper has comparatively recently appeared (Harvey, Deford and Eller, *Dental Cosmos*, 1932, p. 596), in which the need for isohydria is stressed, and it is contended that this factor is responsible for the absence or presence of post-operative pain. These observers have studied the acid-alkaline reactions of various injection solutions.

They quote Koch, Goldberg and Grahnwick (*Dental Items*, 1930, p. 865) as having shown that the more acid the solution, the longer the time required to bring about anæsthesia, and the greater the probability of post-operative sequelæ.

Sollmann (*Jour. A.M.A.*, 1918, lxx, p. 216) maintains that isohydria favours the passage of the drug out of the watery solution into the sheath of the nerve fibril.

The experiments of Harvey, Deford and Eller show that of a number of proprietary local anæsthetic fluids investigated, all showed a pH of from 4.3 to 6.1. By the use of definite amounts

of 2 per cent. sodium carbonate solution they diminished the free acidity, and the resulting pH values were of the order of 7.1.

Clinical observations were made with modified and unmodified solutions when used for regional anæsthesia, and the evidence pointed definitely to a marked diminution of the sensations commonly associated with injection and lessening of post-operative sequelæ. It has also been suggested by Dr. Coles in a paper by F. N. Doubleday (*B.D.J.*, 1929, p. 1073) that a fractional degree of alkalinity such as we have with a pH 7.1 will promote linkage of the drug and hence accelerate its action.

I have myself carried out a number of tests on certain available liquids, and will, with your permission, present them to you :—

	pH
Normal saline	5.7
2 F's and 2 E's in 7 c.c. normal saline	6.2
Hospital Ringer	7.8
2 F's and 2 E's in 7 c.c. Ringer	7.5
2 F's „ 1 E „ 6 c.c. „	7.5
2 F's „ 5 c.c. „	7.5
Novol "75"	6.6
Novutox	3.6

The pH value of the blood is given by Sollmann as varying between 7.3 and 7.5, so that from the standpoint of isohydria the Hospital Ringer used with the appropriate tablets would seem to be practically ideal. I would draw your attention to the markedly acid nature of Novutox, and in passing mention that Sollmann gives a pH 3.6 as the limit below which the perfused tissue is rapidly injured and dies.

Lastly, let me turn to the third point of my paper, that of—

SURFACE TENSION

Surface phenomena are especially prominent when dealing with a substance like protoplasm. In all probability the distribution and transportation of substances such as the local anæsthetics through the nerve-sheaths and other cellular tissues may be controlled by changes in the surface tension of the solutions containing them.

It can be shown that a substance which lowers surface tension passes more readily out of the solution and into the surface, and this, it may be assumed, favours the penetration of the substance through membranes. As a working rule it may, therefore, be considered that the lower the surface tension of a given anæsthetic solution the more readily will it be absorbed, and hence its efficiency will be greater.

It was of interest, therefore, to determine the surface tension of the following solutions :—

	Dynes cm.
(*a*) Ringer solution	72
(*b*) Ringer-novocain-adrenalin solution	55
(*c*) Novutox	32

Here it will be seen that Novutox is less than half that of Ringer's solution and considerably less than Ringer-novocain.

From the brief and somewhat superficial survey of these three important physical factors I would therefore suggest that improvement in the efficiency of local anæsthetic solutions, both as to greater rapidity of anæsthesia and minimal after-pain, may be found in a modification of the Ringer solution commonly in use, leading to a reduction of the hypertonicity developed on adding the novocain ; attention to the hydrogen ion concentration of the solution (pH value) and its maintenance at pH 7.3 to 7.5, if necessary by slight alkalinisation with 2 per cent. sodium carbonate ; and, finally, a reduction of the surface tension to a minimal value.

A modified Ringer solution of the formula—

NaCl	.68 per cent.
KCl	.032 „
$CaCl_2$	.018 „
$NaHCO_3$	.015 „

has an osmotic pressure of 5.8 atmospheres and a pH 7.5. Use of this solution with the appropriate novocain in 2 per cent. solution gives a liquid which is both isotonic and isohydric with the body fluids (its pH is 7.2).

A further slight modification of this solution by addition of a trace of a suitable organic compound may succeed in bringing about a reduction in surface tension. This point has yet to be determined.

Guy's Hospital Gazette
(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Correspondence

Tyranny of the Conjoint

To the Editor of the GAZETTE

SIR,—The majority of our medical students aim at acquiring a University degree, whether it be that of Oxford, Cambridge or London, but under present-day regulations it is usually found that they can qualify at least three months, and sometimes six months, earlier by taking the Conjoint Board Diploma or the Licentiate of the Society of Apothecaries. At the present time most students take the Conjoint rather than the L.S.A.; why this should be so is not quite clear. The L.S.A. has the following very tangible advantages to the average University student :—

1. The cost of the L.S.A. is only £21, *i.e.*, approximately half that of the Conjoint.
2. The examination is held monthly instead of quarterly.
3. The behaviour and courtesy of examiners in the L.S.A. leave little to be desired. This is not always true of Conjoint examiners.
4. Holders of the L.S.A. can at a later date, should they so desire, become members of the Society of Apothecaries and so enjoy the amenities of a City Company.

The only real advantage of the Conjoint Diploma over the L.S.A. is that the holder is allowed to take the Final F.R.C.S. at any time, a privilege which is quite unjustifiably withheld from those who qualify by taking University degrees.

It would appear, therefore, that for all except budding surgeons the L.S.A. has many advantages, provided there is a reasonable prospect of obtaining a University degree at not too remote a date. I cannot believe that holders of the L.S.A. are likely to be passed over for Clinical or House Appointments on the ground that they do not hold the Conjoint Diploma.

Yours, etc.,

UNIVERSITY GRADUATE.

The Fagge Farewell

"The tumult and the shouting dies,
The captains and the kings depart."

MR. FAGGE has done his last round, taken dinner with his old House Surgeons, and retired to adorn the Consulting Staff—for which dignity he appears incredibly youthful. An appreciation of him has appeared in the *Gazette*, and now an old H.S. ventures to look back and ask himself what he owes to Mr. Fagge.

I should say, without hesitation, that it was a great privilege to be on the Fagge firm, because he was a prince of aseptic surgery. There were only two general surgeons at Guy's who practised a faultless aseptic technique, the senior being, of course, "The Master," as Mr. Fagge would call him. I do not know if there be any surgeon at Guy's to-day upon whom the mantle of Fagge has fallen.

Mr. Fagge taught us not merely what to do, but how to do it. He was not easy to satisfy. He would send the H.S. up to start an operation and, appearing himself ten minutes later, would invariably condemn everything that had been done prior to his arrival—a perfectly proper state of affairs which, while trying for the H.S. at the moment, was good for his soul.

I well remember, shortly after leaving the Fagge firm, the anguish with which I watched surgeons elsewhere plating bones with fingers in the wound. I am aware that there are surgeons of no little repute who do likewise to-day, but those of us who have seen the Lane and Fagge technique would probably not care to submit our bones to an operator of the other school.

The gathering at the afternoon round and at the Criterion in the evening testified to the affection and regard which Mr. Fagge and his works have inspired in the hearts of those who have worked under him at Guy's. It is to be hoped that he will remain more than a name to the present and future Guy's men, and that the now Junior Consulting Surgeon will be encouraged to appear in person from time to time that the men of the day may not be unacquainted with one of the greatest teachers of operative technique that Guy's has ever produced.

AN OLD H.S.

Nursing News

WE are pleased to report a most successful financial result to the Nurses' Entertainment held last month. Owing to the close proximity to Easter we feared we should not reach the sum raised last year. However, the rather poor house on Wednesday was compensated for by the auction sale on Friday, and donations from friends, chiefly honorary members of the Guy's Hospital Nurses' League.

We should like to offer our sincere thanks to all who helped us to raise the sum of £76 16*s.* 6*d.*, which has been paid into the Cosmo Bonsor Memorial Fund.

Thanks to the Dean and Professor Pembrey for allowing us to use the Medical School and to the Superintendent for giving us the help of the Works Department, our expenses were small and were covered by a small jumble sale held at the beginning of the year.

The money was raised as follows :—

	£	*s.*	*d.*
Sale of tickets and donations	59	16	6
Refreshments and programmes (by the Preliminary Training School)	10	0	0
Auction sale of goods kindly presented by Firms supplying the Hospital.....	7	0	0
Total	£76	16	6

F. T.

Sport

Rugby

THE season of 1932-33 being completed, I have pleasure, as in past seasons, in enclosing chart and statistics of the 1st XV performances.

The figures are an improvement over last season's, the total number of points scored being higher than for some years.

Three matches were scratched, due to frost and snow, the games being Cambridge University, Gloucester and Plymouth Albion, the last two being home matches.

While possibly there was no outstanding match, some very fine games were played. The Hospital Cup was retained, our opponents in the Final being old friends (Bart.'s).

Interesting items of note, if these records are correct, are that we scored 18 penalty goals, totalling 54 points, whereas our opponents scored only two, totalling six points.

Hogbin again this season showed splendid all-round form, again being top scorer with 108 points, of which 45 were obtained by penalty kicks. Strangely enough, Hogbin scored 108 points last season. Kark played in all matches, with one exception, *i.e.*, London Irish—a good record.

The players who took part in the Cup Final match are starred in the Statistics.

SEASON 1932-33

The following have taken part in 1st XV matches during the season :—

*Kark (29), *Giesen (28), *Darke (27), *Thomas, *Hogbin (23), *Clegg, *T. Morgan (22), Heberlein (21), *O'Shea, *Drummond, *Robin (20), *Alexander (19), Clarke (18), *Bowles (17), *Johnson (16), *Walt (15), *Wright (14), Lindsey (12), Ashdown (11), W. Morgan (10), Leeming (9), Hale-Monro (7), Eustace, W. Lewis (5), Stanyon, Walker, Outred, W. G. Zorab (4), Hamilton, Howell (3), Burrows, Weston, Van der Merwe (2), and E. C. Zorab, Rowlett (1) each.

The following have scored tries :—

Johnson (15), Giesen (12), Alexander (8), Wright (6), Lindsey, Hogbin (5), Walt (4), Thomas (3), Ashdown, Clarke, T. Morgan (2), Clegg, Burrows, Howell, O'Shea, Drummond, Bowles, Walker, Kark, Robin and Heberlein (1) each.

The following have scored goals :—

	Tries Converted.	*Drop Goals.*	*Penalty Goals.*
Hogbin	24	—	15
Alexander	6	—	3
Giesen	—	6	—
W. Lewis	—	2	—
Thomas	—	1	—
O'Shea	1	—	—

making a total of 74 tries, 31 tries converted, 18 penalty goals and 9 dropped goals. Total points, 374.

Our opponents' score was as follows :—

Tries 81, tries converted 37, penalty goals 2, dropped goals 6. Total points, 347.

Therefore the complete figures are :—

Played 30, won 14, lost 15, drawn 1. Points for, 374; points against, 347. Average points per game (for), 12.46; average points per game (against), 11.56; percentage, 48.3.

GUY'S HOSPITAL 1ST XV.

SEASON 1932-33

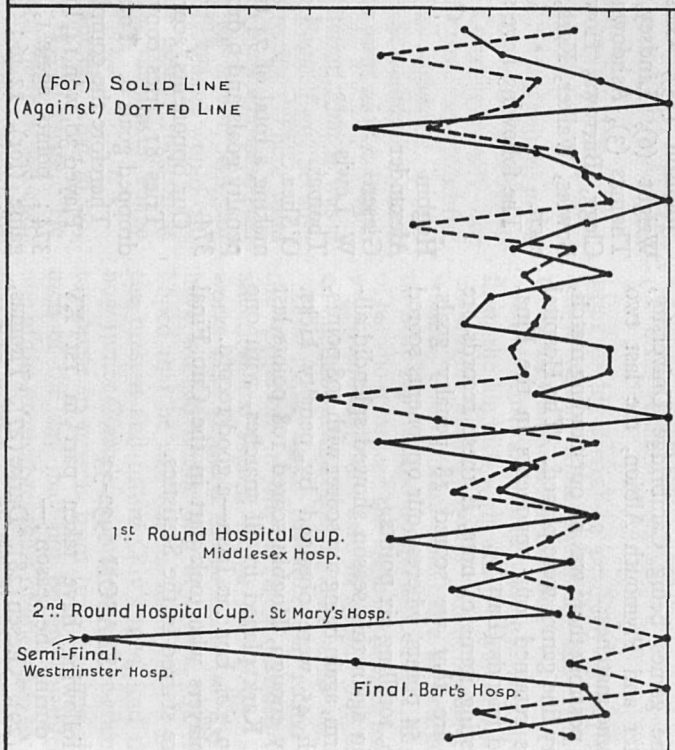
Average Points (For) 12·46

For Total Points 374

— Percentage — 48·3

Average Points (Against) 11·56

Against Total Points 347


Points
50 45 40 35 30 25 20 15 10 5 0
(For) Solid Line
(Against) Dotted Line
1st Round Hospital Cup. Middlesex Hosp.
2nd Round Hospital Cup. St Mary's Hosp.
Semi-Final. Westminster Hosp.
Final. Bart's Hosp.

OPPONENTS	DATE	G	Points For F	Points Against A	SCORE For G	SCORE For T	SCORE Against G	SCORE Against T	GOALS	TRIES
Catford Bridge	Sept. 17	H	17	8	1	4	1	1	O'Shea.	Clegg, Burrows, Howell, O'Shea, Drummond.
Plymouth Albion	" 24	A	14	24	3D	–	3	3	Giesen,D Alexander 2.	Alexander, Giesen.
Camborne	" 26	A	6	11	1+	1	2+	1	Alexander.+	Alexander
United Services	Oct. 1	H	0	13	–	–	2	1		
Old Blues	" 8	H	26	20	5++	2	3D	2	W Lewis,D Alexander 4.++	Ashdown, Alexander, Giesen 2.
London Irish	" 15	H	11	8	1	2	1	1	Alexander.	Ashdown, Alexander, Thomas.
Harlequins	" 22	H	6	7	1+	1	1D	1	Hogbin.+	Lindsey.
Cheltenham	" 29	A	0	5	–	–	1	–		
Cambridge Unv.	Nov. 2	H	7	21	1D	1	3	2	Giesen.D	Johnson
Northampton	" 5	H	13	8	2	1	1	1	Hogbin 2.	Johnson 2. Giesen.
Coventry	" 12	H	5	12	1	–	–	4	Hogbin	Johnson.
Birkenhead Pk.	" 19	H	15	10	4+D	–	2	–	Hogbin 3,++ W Lewis D	Johnson.
Old Cranleighians	" 26	H	17	11	3++	2	2+	1	Hogbin 3.++	Lindsey, Kark, Robin
Richmond	Dec. 3	H	5	13	1	–	2	1	Hogbin.	Hogbin.
Aberavon	" 10	H	5	12	1	–	–	4	Hogbin.	Johnson.
Coventry	" 17	A	11	29	3++	–	5DD	2	Hogbin 3.++	Clarke.
United Services	" 21	A	0	19	–	–	2	3		
Cheltenham	" 31	H	24	6	3+D	4	–	2	Giesen,D Hogbin 2.+	Walker, Wright, Bowles, Walt, Clarke.
O.M.T.s	1933 Jan. 7	A	11	13	1	2	2	1	Hogbin.	Johnson, Hogbin 2.
Birkenhead Pk.	" 14	A	14	18	3D	–	3	1	Giesen D Hogbin 2.	Walt, Hogbin.
Rosslyn Park	Feb. 4	A	6	6	1+	1	–	2	Hogbin.+	Wright.
Middlesex Hosp.	" 7	R	23	10	3++	4	1D	2	Hogbin 3.++	Johnson 2, Giesen, Wright, Heberlein
Aberavon	" 11	A	8	15	1	1	2D	2	Hogbin.	Giesen, Wright.
Old Millhillians	" 18	H	18	8	3+D	2	1	1	Thomas,D Hogbin 2.+	Giesen, Alexander, Wright.
St. Mary's Hosp.	" 21	R	9	8	2++	1	1	1	Hogbin 2.+	Johnson.
Westminster Hosp.	Mar. 2	R	48	0	6+	5	–	–	Hogbin 7.+	Johnson 3, Giesen 3, Alexander 2. Lindsey, Thomas, T. Morgan.
Old Leysians	" 4	H	25	8	2	5	1	1	Hogbin 2.	Giesen 2, Lindsey 2, Alexander, Thomas, Hogbin
Bart's Hosp.	" 15	R	7	0	1D	1	–	–	Giesen.D	Johnson.
Old Cranleighians	" 18	H	5	16	1	–	2	2	Hogbin.	Walt.
Old Alleynians	" 25	H	18	8	2D	3	1	1	Giesen,D Alexander.	Walt, T. Morgan, Johnson, Wright.

PLAYED 30, WON 14, LOST 15, DRAWN 1.

+ Penalty Goal. D Drop Goal.

Season.	P.	Points. W.	D.	L.	F.	A.	Per cent.
1926-27	34	18	3	13	371	294	57·35
1927-28	26	12	3	11	190	206	52.0
1928-29	30	11	1	18	220	404	38.3
1929-30	28	12	1	15	322	311	44.7
1930-31	28	13	2	13	306	289	50.0
1931-32	28	14	14	0	295	324	50.0
1932-33	30	14	1	15	374	347	48.3

ROY C. HOLLOWAY.

Golf

A MATCH was played *versus* the Hastings Medico-Dental Golfing Society on Sunday, May 7th, at the course of the St. Leonard's Club. Unfortunately, the weather was not propitious, but, despite heavy rain and a high wind, all had a most enjoyable day. Singles were played in the morning and four-balls in the afternoon. The match resulted in a draw, each side winning six matches.

SINGLES

Guy's		*Hastings*	
H. C. A. Weighell	½	A. Kelt	½
C. B. Elstob (3 & 2)	1	J. C. Lee	0
B. J. Doran (5 & 4)	1	D. C. Bown	0
H. Cameron	0	C. H. Mansell	1
W. C. Kendrick (2 & 1)	1	I. M. Chisholm	0
P. S. P. Jenkins	0	F. J. Cutler	1
F. I. Evans	0	A. Selby	1
C. I. Blacklock	1	A. M. Davie	0
F. J. R. Stoneham	0	I. Glynn	1
	4½		4½

FOUR-BALLS

Guy's		*Hastings*	
Weighell & Doran	0	Kelt & Lee (1 up)	1
Elstob & Kendrick (4 & 2)	1	Bown & Mansell	0
Cameron & Jenkins	0	Chisholm & Cutler	1
Evans æ Blacklock (3 & 2)	1	Selby & Connolly	0
	2		2

Notices

The Innominate Club

The Fifth Annual Dinner will be held at the Trocadero Restaurant, on Friday, May 26th, at 7.30 p.m. W. A. Mill will take the Chair.

For tickets, please apply to G. T. Hankey, 23, Gloucester Gardens, Hyde Park, W.2.

A Dance

A DANCE in aid of the Royal Medical Benevolent Guild will be held on Thursday, 25th May, 1933, from 9 p.m. to 2 a.m., at B.M.A. House, Tavistock Square, W.C. Pilbeam's Band. Tickets (including Buffet Supper), 11*s*. double, 6*s*. single. Alcoholic drinks may be purchased.

Tickets may be obtained from Miss Joan Mollison, 23, Devonshire Place, W.1; Miss Olive Powell, Banstead Grange, Banstead, Surrey; Dr. Roy Saunders (Secretary), 40, Harley Street, W.1; G. W. A. Tufton, Esq., 33, Albert Road, N.W.8; or any other member of the Committee.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
April, 1933.
Surgery.
T. Morgan.

Changes of Address

D. H. Hubbs, M.R.C.S., L.R.C.P., 140, Stamford Hill, N.16. *Clissold* 0640.

Papers by Guy's Men

E. T. Conybeare. Skin reacting substances present in the urine during acute streptococcal infections. *Bull. Johns Hopkins Hosp.*, 1933, lii, 119.

C. F. Brockington. Outbreak of acute anterior poliomyelitis. *Lancet*, 1933, i, 817.

C. K. Fry. Third molar. *B. Dent. J.*, 1933, liv, 385.

W. M. Mollison. Case in which cold caloric stimulation of canals produces nystagmus of ocular type. *Proc. R.S.M.*, 1933, xxvi, 728.

C. Lambrinudi. Method of correcting equinus and calcaneous deformities at the sub-astragaloid joint. *Proc. R.S.M.*, 1933, xxvi, 788.

E. W. Goodall. Note on the "Liber de febre pestilentiali" of Nicholas Massa. *Proc. R.S.M.*, 1933, xxvi, 667.

E. G. Little. (1) Prurigo; (2) Lupus erythematodes; (3) Fibrous induration following X-ray burn. *Proc. R.S.M.*, 1933, xxvi, 750.

L. Forman. Premature baldness in female (? masculine type) with sebaceous adenomata. *Proc. R.S.M.*, 1933, xxvi, 749.

Births

STEVENSON.—On Tuesday, 25th April, 1933, at 3, Wilbraham Place, S.W.1, to Frances (nee Yorke), wife of F. Harwood Stevenson, M.D., M.R.C.P. (Lond.)—a son.

HAMMOND-WILLIAMS.—On 28th April, 1933, at Staines, to Elsie, wife of Cecil Hammond-Williams, L.D.S., R.C.S. (Eng.)—a daughter.

EDS. { M. J. McA. C. G. B.

GUY'S HOSPITAL MEDICAL SCHOOL.

TIME TABLE. SUMMER TERM, 1933.

SUBJECTS FOR FINAL EXAMINATION.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Bacteriology	Professor Eyre	Lectures. Tues., Weds. and Thursdays at 12 noon Practical. Mons., Tues., Weds. Thurs., Fridays and Saturdays at 9.15 a.m.	Pathological Theatre Pathological Class Room	Tuesday, April 25th Monday, April 24th
Psychological Medicine	Dr. Gillespie	Lectures. Fridays at 9 a.m. Demonstrations. Wednesdays at 3.15 p.m.	Physiological Theatre Bexley Mental Hospital	Friday, May 5th Wednesday, May 3rd
Forensic Medicine	Dr. Ryffel	Fridays at 4.30 p.m.	Class Room 3	Friday, May 5th
Operative Surgery	Mr. Doherty	Days and Times to be announced later	Operative Surgery Class Room	
Applied Anatomy	Professor Johnston	Wednesdays at 12 noon	Anatomical Theatre	Wednesday, May 3rd

ORGANIC CHEMISTRY, ANATOMY AND PHYSIOLOGY

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B. Part I.)	Lectures. Mon. 1.30 and Weds. 11.30 a.m. Practical. Mondays 2–5 p.m. Thursdays 10-1 p.m.	Chemistry Theatre Chemistry Laboratory	Wednesday, May 3rd Thursday, May 4th
Anatomy	Elementary Lectures. Weds. 10.30 a.m. Fri. 9.30 a.m. Practical Anatomy. Daily from 9.30 a.m. to 5 p.m. Revision Classes. To be announced later Normal Histology. Tuesdays at 2 p.m.	Anatomical Theatre Dissecting Room Demonstration Theatre Histology Laboratory	Wednesday, May 3rd Tuesday, May 2nd To be announced later Tuesday, May 9th.
Physiology	Chemical Physiology. Tuesday 2-4 p.m. Experimental Physiology. Weds. 11-1 p.m. Physiological Histology. Fridays, 11-1 p.m. Clinical Physiology (All Students). Thurs. 12-1 p.m. (Revision for M.B. Candidates)	Chemical Physiological Laboratory Experimental Physiological Laboratory Experimental Physiological Laboratory Clinical Theatre	Tuesday, May 9th Wednesday, May 10th Friday, May 5th Thursday, May 4th
	Practical Revision Classes for candidates for Conjoint Examination. Tutorial Classes, Elementary and Advanced Tutorial Classes for Candidates for 2nd M.B. Examination.	Days and times of classes will be announced later	

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Conjoint	Inorganic Chemistry Organic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tuesday, May 2nd Thurs. 2-3 & Fri. 12-1 p.m. First Lecture, Fri., May 5th	Chemistry Theatre Chemistry Theatre	Thurs. 3-5 p.m. & Fri. 10-12 noon. First Class, Thurs., May 4th. When no Lecture, Practical Class 2-5 p.m., on Thurs.	Chemistry Laboratory
	Physics	Light & Sound. Tues. & Thurs. at 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Thurs. May 4th	Class Room IV.	Mons. 10-1 p.m. and 2-5 p.m. First Class, Mon. May 8th	Physics Laboratory
	Biology	Weds. 9.30 a.m., Thurs. 12 noon, Sats. 9.30 a.m. First Lecture, Wed., May 3rd	Physiological Theatre	Tues. & Fridays 2-5 p.m. First Class, Fri. May 5th	Biology Laboratory
M.B. London	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tues., May 2nd	Chemistry Theatre	Mons. 10-1 p.m., Tues. 2-5 p.m. First Class, Tues., May 2nd	Chemistry Laboratory
	Physics	Light & Sound. Tues. & Thurs. 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Thurs., May 4th	Class Room IV.	Thurs. & Fridays 2-5 p.m. First Class, Thurs., May 4th	Physics Laboratory
	Biology	Weds. & Sats. at 9.30 a.m. Thurs. at 12 noon. First Lecture, Wed., May 3rd	Anatomical Theatre	Weds. & Fridays at 10.30 a.m. Sats. 11 a.m. First Class, Wed., May 3rd	Biology Laboratory

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVII — *27th May, 1933* — *Number 1170*

PASSIM

LEST it rain or freeze when this is read, let us say that it shone when it was written and remind our readers that the Hospital enjoyed at least two days of summer. Though the sun has not yet coaxed forth the Sister Muriel collar or the Vertuous Tropical Outfit we have already heard jealous accounts from sweating dressers and house surgeons of the Theatre Staff airily flitting like dryads about their duties. White coats have been seen in the Park, and even some vests have been discarded for sleep in the male wards. At mid-day the salutary lessons of the deadhouse are foregone for that full-length contemplation so necessary in preparing for the afternoon round, and only the two o'clock buzzer or, later, the approaching physician annihilates the green thought in a green shade. In Out-Patients the harassed O.P.O. can explain the puzzling baby's temperature without resorting to constipation as a diagnosis, and what a week ago must needs be a food upset can now be confidently called a sweat rash. Meanwhile the House Physician in his College room, finishing his forenoon slumber or reading up D. and V. for the coming season, is disturbed by a face at the window, for the painters are at work. After ten years this sepulchre is being whited, and if that will not induce the sun to stay nothing will.

WE are glad to announce that, after full consideration, the Court of Governors have decided that no change is to be made in the length of the weekly take-in.

LIVING in the sheltered and enclosed atmosphere of a hospital, and without an adequate knowledge of the variety of conditions that exist outside, it is often easy to forget that the genesis of disease cannot be expressed solely in terms of bacteriology, pathology, or of immunity as expressed in medical text-books.

It is true that nowadays we are not allowed to overlook the importance of the constitution; it is true that the science of dietetics is at last being taken seriously, and that each year shows that what we used to attribute to some hypothetical toxin must now be placed in the category of a deficiency disease, but, nevertheless, it is surprising how in hospital practice we still pay insufficient attention to conditions of home life and environment, and how complacently we regard overcrowding and underfeeding as though they were necessary evils. In these times of depression, underfeeding must play an important part in the production of disease, and it is instructive to take stock now and then and to know the cost of the minimum dietary necessary for proper health, and whether our patients are really in a position to afford it.

This problem the *Week-End Review* has recently investigated by setting up a small but authoritative commission, in which Professor V. H. Mottram was their dietetic expert. It is impossible to do full justice to their interesting report, but, after a full explanation, they came to the conclusion that the minimum weekly food ration for a sedentary working man, his wife and two children, aged 8 and 12, cost 17*s.* 6*d.* a week! This diet provides the minimum number of calories required, has a sufficient vitamin and mineral content, and gives enough variety, so that it may be described as the lowest possible diet necessary for maintaining adequate nutrition. The cost is based on the cheapest London prices—at a time, too, when prices were lower than at any period since 1915. The committee estimated the cost of fuel for cooking and heating as at least 3*s.* weekly. We are told that the average rent for a three-roomed working-class tenement

in the eastern part of the County of London is about 11*s.* a week, so that this raises the family budget to 31*s.* 6*d.* a week, without providing for clothes or any slight luxury. If these figures are correct there is no doubt that in many cases the relief given by Public Assistance Committees or the State does not reach a high enough figure, and it is important that the Medical Profession should realise their responsibilities and step in and try to lessen the hardships.

A very interesting example of the dangers resulting from a reduction in the dietary in order that the landlord may be satisfied was given by Dr. G. C. M. McGonigle, M.O.H. for Stockton-on-Tees, in a paper recently read before the Royal Society of Medicine. In 1927 it was decided to remove the inhabitants of a slum area in Stockton to a more hygienic neighbourhood. For various reasons it was only possible to move about half of the slum-dwellers at a time, and these were accommodated in the new "Mount Pleasant Estate," while those who were left behind had still to put up with the "Riverside Area." But, unfortunately, rents were 4*s.* 6*d.* a week higher in Mount Pleasant, and the inhabitants there had to forgo foods containing "first-class" protein, that is, protein of animal origin, and live more on carbohydrates and low-grade fats in order that they might pay the higher rent. The result of this dietetic change was shown in the death rate of the two places compared over the years 1928-1932. In the Riverside area it was 22.78 per thousand, but the population of Mount Pleasant, which previous to the removal had a death rate of 22.91, died 50 per cent. quicker at their new model estate, having a death rate of 33.55 from 1928 to 1932. This Dr. McGonigle attributes solely to the decreased amount spent on food. The infantile mortality was actually lower than before, and it is interesting that the birth rate rose from 35 to 44 per thousand.

These investigations of the *Week-End Review* and Dr. McGonigle raise social and economic problems that have a very important bearing on the public health, and it is for that reason that we bring them to the notice of our readers, hoping that it will stimulate them to investigate such problems still further.

AT a recent meeting of the Residents, Mr. C. G. Baker was elected President for the coming three months and Mr. D. H. Irish, Vice-President.

The Residents' Going-Off Dinner was held on May 15th with customary *elan*, and those in a position to judge considered it one of the most successful of recent years.

THE Dance held in the Nurses' Home on May 12th in aid of the Guy's Hospital Nurses' League's Scholarship was a very happy evening. All testified to the excellence of the dancing, musical and catering arrangements. We hope, and imagine, that it was as successful financially as socially. Our thanks are due to Mrs. Cook and her helpers for all their work.

THE Fison Memorial Lecture will be given this year by Dr. Hensley Henson, the Bishop of Durham. It is to be entitled, "Ethical Conditions of Scientific Method," and is to be given on Thursday, June 15th, at 5.30 p.m.

Some Cases in whom Operations upon the Kidneys have been Performed

A Clinical Lecture delivered at Guy's Hospital, April, 1933, by A R. Thompson, Esq., Ch.M., F.R.C.S.

GENTLEMEN,—Several interesting cases have been seen lately in the Genito-Urinary Department at Guy's Hospital, and it seems a good opportunity for us to consider together some of these cases.

In many cases calling for some operation upon the kidney, excision is certainly the easiest operation, but, though I have always been averse to doing this indiscriminately, of late years I have conserved kidneys with such good results that I make no apology for showing some of them.

First, then, I show to you a case of bilateral cystic disease of the kidney. The patient is a female, aged 38, who presents two swellings in the position of the kidney on each side.

The swelling on the left side is known to be cystic, as it has been cut down upon, and there can be little doubt but that the right is also cystic, but it is smaller than that on the left side. The patient has been under my care for several years, and she is not worse in health than she used to be, and is not going downhill apparently. The smaller size of the right kidney is of interest as this difference in size indicates that we have a progressive condition to deal with. The post-mortem records at Guy's show the progressive nature of the trouble. Thus when a patient is examined on the post-mortem table at, say, the age of 25, we shall find that half a kidney is cystic, and when another one is seen at the age of 35 we shall find

that the whole of one kidney is cystic, and at the age of 45 that one and a half kidneys are cystic, and that at a later age the whole of both kidneys are cystic. In many cases death has not been due to the disease of the kidney, at any rate directly, but has been due to other causes. A little confusion arises when the term "cystic disease" is mentioned. Thus there are undoubtedly cases of children being born with cystic disease, from which they rapidly die, and there are curious cases in whom the cystic disease of the kidney is associated with cystic disease of the liver and of both testes.

This type of case is rapidly fatal. But the type of case which I am showing now might, perhaps, be named more properly "progressive cystic disease of the kidneys," rather than "congenital cystic disease," which it is commonly called.

Although I have seen a surgeon remove such a kidney, when the disease appeared to be unilateral, the patient did not long survive the operation, and, although I believe that in Australia excision of such kidneys is sometimes done, I cannot think that it is the right treatment, and certainly in the case that I am showing the patient would be worse off with one of her kidneys removed and the other one cystic.

But this case is interesting in that it confirms the records at Guy's of the lives and deaths of this type of progressive cystic disease. The patient leads a fairly happy and useful life in minor house duties, and whenever she feels that she is run down she comes into the ward and lies in bed under favourable circumstances of diet and rest.

In the cases that I have notes of, the average age of death is about 60, and many of these cases did not die of the cystic disease, except that the deficient kidneys may have led to other diseases such as pneumonia or failing heart.

Such kidneys, then, in the absence of further investigation, should not be excised, but this does not preclude operations being done upon such kidneys, and, as a matter of fact, this patient has bilateral stones in the kidneys. I have operated for the removal of unilateral stones in two cases of progressive cystic disease, and whilst one, a young woman, did not survive the operation more than a year, yet the stones had caused so much pain, which was lost after the operation, that their removal was justified. Another case, that of an elderly man who was known to have a cystic kidney, had so much pain and such severe general reaction that he asked me to do something for him, and I removed two stones from his left kidney pelvis, and he did very well after the operation, showing no recurrence and suffering no pain, and going back to his work in the leather trade. He lived for four years, and died from a severe carbuncle which might not have proved fatal had he not had the cystic disease. But in the case of the woman whom I am showing the stones are bilateral, and do not give rise to serious symptoms, and so an operation is not called for at present.

Another class of case in which nephrectomy might be performed, namely, that class of renal infection due to some obstruction in the lower urinary tract, may now be considered. For many years I have been on the look-out for cases in which the kidney might be operated upon in cases of enlarged prostate or of stricture, the kidneys being infected and with deficient functionating power, but I have only been able to find one, and this case is in many ways so satisfactory that I will give a very brief account of it. The boy is now in Christopher Ward, and is aged 17 years. He had always been ailing, and occasionally had bouts of retention of urine with pus and blood at times in the urine. When I came to examine him I found a stricture about half-way down the urethra, and I thought it was congenital in origin. Apart from pin-point meatuses and those small orifices which are so frequently associated with hypospadias, and apart also from meatal strictures which some of you may recollect that I lectured upon not so long ago, in my experience I have only come across three cases in which the stricture appeared to be of congenital origin. They were all situated about the same level in the urethra, and gonorrhœa and syphilis could be excluded as causes, nor was there any history of trauma.

But whether or no this stricture was congenital the boy had marked evidence of renal involvement, and after we had dilated the stricture the cystoscope showed that there was marked renal failure and that pus was coming down from both ureters. The left kidney was palpable and tender, but, though the right kidney could not be felt, it also was very tender. There were calcified glands in the abdomen on both sides. These formed shadows which might have been due to stones, but the passage of ureteric catheters showed that the shadows were situated outside the urinary passages. I cut down on the left kidney and formed a permanent fistula, and this was much aided by Mr. Heather's assiduous attention. The boy was discharged, and I saw him a year after the operation, when he was surprisingly well and discharging clear urine through the left lumbar fistula.

From being bedridden he had started to get about and had put on weight. But the right kidney caused him trouble, and I cut down on this and found a good deal of perinephritis, and I contented myself with draining the perinephric area and he did well, but he is now in the ward,

and I fear that we shall have to cut down upon the organ and possibly have to incise it, but clearly nephrectomy is not called for.

(As a matter of fact, the right kidney was cut down upon the next day as the patient had had rigors with a rapid pulse and a good deal of pain in the front of the lumbar region, and there was a palpable swelling here, which could be felt behind as well as in front.

The kidney was laid open widely and drained.)

I do not doubt that the calcified glands have produced some external pressure upon, and consequent obstruction to, the ureter on the right side, which has not appeared on the left side except at the commencement of his trouble in the kidneys, owing to the permanent nephrostomy, as it were, cheating the obstruction on this side.

Though no doubt this case is a complicated one, I should rather read it as follows: The congenital stricture led to septic complications and the sepsis spread up external to the ureters or in their walls by the lymphatics. Ascending nephritis was produced and the glands of the tissues became involved and calcified.

The stricture has been dealt with by dilatation and the kidneys have been dealt with by nephrostomy, and it may be that later the glands may have to be removed.

I have seen a case in whom there was a severe fracture of the pelvis and complete separation of the bladder from the urethra in the region of the prostate gland. In this case septic complications appeared in the right kidney with formation of phosphatic stones in the kidney and a perinephric abscess between the diaphragm and the kidney. The kidney was conserved, as with such a source of infection the other kidney might well have been, or would become septic. Nevertheless, the right kidney had to be removed later, and though when last I heard of the patient he was well, yet his life must be precarious. Another interesting point was that though X-rays showed a mass of calcified glands on the right of the upper part of the sacrum, yet when the patient had been drained for two months, no evidence was seen of these calcified glands in a second X-ray photograph.

I have had recently to deal with another difficult case. A lady, aged 36, was sent to me with evidence of calculi in the right kidney, which also was an infected one. Blood clots infiltrated with phosphates were found in large numbers in the pelvis of the kidney, and these were removed and the kidney drained.

She did well and lived a very useful life, but ten years later, at the age of 46, she told me that she was passing stones with symptoms pointing to the left side. I prescribed the usual remedies, but she continued to pass small stones, until the other day, when she had severe pain and rigors with a temperature of 106° F. and a rapid pulse. She was admitted under the care of Drs. Poulton and Campbell, and I operated upon her by cutting down upon the left kidney and incising it, and, in accordance with the X-ray findings, a stone was removed from the left kidney pelvis at its upper part and a smaller stone was removed from the upper end of the left ureter, which completely blocked it. Here again the kidney was drained, Mr. Irish is assiduously keeping the wound open and it is draining efficiently. Her temperature has come down and she is now, I think, convalescent, though her condition was undoubtedly precarious at one time and caused a great deal of anxiety. The kidney was large and congested. This fact is important, as it may well mean that, with the other kidney probably not a very good one, this left kidney was doing most of the work of the total renal duties. And this possibility raises a most important question. Occasionally there may be a kidney of functional value only on one side, and though this is usually named "solitary kidney," yet I am not in favour myself of calling it so, but this is a question that I have not time to go into now. All that I want to insist upon now is that one is never justified in removing one kidney, however bad it may be, unless there is sure evidence that the other kidney is present. I have seen one kidney removed, there being no obvious fellow to it, and I have heard of another case in which a single kidney was removed. You will find the first case recorded in the *Guy's Hospital Reports* of 1929.

To sum up so far; if you are not certain about the presence of bilateral kidneys you certainly must not remove one, whatever its condition, and in cases in which you have reason to suppose that the condition is actually or potentially of an ascending nature, as occurs in obstruction or infection, or both in the lower urinary tract, you will be cautious in suggesting removal of one kidney. The condition is so hopeless when one kidney has been removed and the other goes wrong. I have also laid stress upon the importance of permanent nephrostomy as a remedial form of operation.

I shall now show three other cases in which great improvement has followed upon nephrostomy and cautious surgical treatment, though I fear that I cannot go into such detailed consideration of these cases as of those that have been noted.

An elderly woman who presented all the symptoms of chronic Bright's disease was, in fact, found to have a stone in the kidney of one side. I think that it is Sir Samuel Wilks who has said

that people with stone may have all the symptoms of this chronic disease, and die in the same way as people who have chronic nephritis, *e.g.*, with some cerebral condition or failing heart, or pneumonia, and I was anxious in this case about the advisability of an operation for the removal of the stone.

As she had a good deal of pain and I feared that the stone might be setting up degenerative changes in both kidneys, I decided to remove the stone, and performed nephrolithotomy some three years ago now, and the kidney was drained for a longer time than is usual in my cases, and she did very well, and you see her now leading an active, useful life, and with no albumin in the urine, which is clear and translucent.

In the matter of irritation being set up in the other kidney when there is a stone present in the other kidney, you may like to know that a tuberculous kidney on one side may be associated with ordinary nephritis on the other side, and some authorities have suggested that there is some toxin produced which causes the ordinary nephritis on the side opposite to that on which the stone is situated.

I now show you a case of a woman aged about 30, who has had previous operations by other surgeons on both sides for stone in the kidneys. She now is, as you see, very well, and has gone back to house duties, and this result is due to the fact that rather longer drainage was adopted for the kidney after it had been subject to nephrolithotomy than is usual. She was very much averse to any operation, and as the stones were bilateral I did not press it, but eventually she had so much and so prolonged pain that she asked me to do something for her, though she did not enter upon the operation with any great enthusiasm, but, as you see, she has done very well, and it is one of the few cases in which I have had a successful result when the stones were not only bilateral, but also multiple.

The last case was sent to me by Dr. Marshall, who very kindly, and entirely voluntarily, was able to confirm the good result of prolonged drainage of one kidney. She had deficient dye excretion on both sides, and with uroselectan and trans-vesical pyelography clearly both kidneys were infected. I cut down on the left and drained it for two months and she did very well and has put on a stone in weight, and, as you see, looks very well, and she is doing her housework well and with no pain.

There are some conditions such as tubercle and growth in which it is essential to excuse the kidney that is affected, but there are other conditions present in which the kidney in former days was excised, with later disastrous results. Nephrectomy may be an easy operation, and in fact is, as I have said, probably the easiest operation which is done upon the kidney. There are other methods of treatment, the good results of which I have shown to you. Amongst these methods of treatment may be considered drainage of the kidney, either permanent or prolonged for longer than is usual. I wonder how long some of them would have lived if they had been subjected to the operation of nephrectomy.

Obesity

A Paper read before the Guy's Hospital Physical Society by B. M. McArdle, Esq.

(*Concluded.*)

Pituitary Obesity.—Pituitary obesity may be caused either by hypoplasia of the gland or by tumours of, or in close relation to the gland. The anterior lobe of the pituitary is composed of eosinophil, basophil and chromophobe cells, any of which may give rise to tumour formation. The resulting tumour is almost always an adenoma confined to one type of cell, but occasionally of a mixed eosinophil and chromophobe type. The eosinophil adenoma gives rise to acromegaly and does not concern us except in the later stages, when hypopituitary symptoms become superimposed. Adenomata of the basophil and chromophobe cells are associated with obesity, but will be discussed separately. For convenience, the types of obesity produced by chromophobe adenomata by suprasellar tumours and by hypoplasia of the pituitary will be discussed together. The suprasellar tumours or, to give them their pathological name, the craniopharyngiomata, are neoplasms which arise from vestigial remnants of the primitive duct which led from Rathke's pouch to the floor of the sella turcica. On the age of the patient depends the particular clinical picture which these lesions will produce.

If the disease commences in childhood a combination of infantilism and adiposity results, and it is then known as Frohlich's syndrome or dystrophia adiposo-genitalis. It is almost invariably due to a craniopharyngioma or to a hypoplasia affecting both lobes of the pituitary. It is characterised by obesity, which may be ex-

treme, which is universal, but most marked on the face, lower abdomen, buttocks, thighs, upper arms, breasts, and below the scapulæ. The epiphyses remain unclosed and dwarfism may result. Infantilism is usually present in a striking degree. The skin is delicate, thin, smooth, dry and hairless. The hands are small and chubby, the fingers long and tapering, and the nails are without crescents. Mental development is usually unaffected. The basal metabolism is lowered and they have a high carbohydrate tolerance.

Hypoplasia is the most common cause of Frohlich's syndrome and can be distinguished from the craniopharyngiomata by the absence of neighbourhood symptoms and of increased intracranial pressure which, sooner or later, always develop, or by the X-ray appearances of the skull. In cases due to hypoplasia, the pituitary fossa is either normal in appearance and size or, in old-standing cases abnormally small. The suprasellar tumours are nearly always extrasellar in outline, and even in the absence of the customary shadow of the calcareous deposits which they contain, the deformities produced are usually distinctive.

Another type has been recognised—the so-called Brissaud type, in which some degree of thyroid insufficiency probably plays a part. The principal characteristics are a large head with a smooth fat face, thick lips and poor eyebrows, and a fairly universal distribution of fat, occasionally of a feminine distribution. The epiphyses are ununited, and there is absence of the secondary sexual characteristics.

When the disease becomes manifest during adolescence, the obesity, when occurring in males, assumes the feminine distribution with absence of hair on the body except for scanty transverse crines. In young women the distribution of the fat is not characteristic.

Pituitary obesity developing in later life is nearly always due to a chromophobe adenoma, though rarely to a suprasellar tumour. It is not a predominant feature, nor is the distribution characteristic, but sudden unaccountable fluctuations in the patient's weight are very typical. It is not uncommon to find that during the preceding two or three years there had been a sudden gain of one to two stone, which was subsequently lost. The most constant findings are local pressure signs, depression of the sexual functions, skin and hair changes and a high glucose tolerance test. The main neighbourhood symptoms are a dull aching or bursting retro- or supra-orbital headache, bitemporal hemianopia, the upper nasal fields being first affected, and a squint. Radiologically there is a ballooned sella with a clear, smooth outline, thin and pointed anterior clinoid processes, and very marked erosion of the posterior clinoids. Amenorrhœa, preceded by irregularity and scantiness of the periods, is a very early and constant sign in the female, with loss of libido and, later, impotence in the male. Equally constant and early are the changes in the skin, which becomes pale, thin, smooth and very dry, while hair is scanty all over the body and of feminine distribution. In later years the skin becomes finely wrinkled, an appearance which is very typical. The basal metabolic rate is subnormal (about 20 per cent.).

Pathologically the chromophobe adenoma is a soft and homogeneous mass varying in colour from white to maroon, but usually yellow or pink. Cystic cavities are a common finding. On their microscopical appearance Dott and Bailey[36] have divided them into two types : (*a*) those in which the columnar character of the cells of the normal hypophysis is maintained, and (*b*) those consisting of a mass of cells without any architectural arrangement and having little supporting fibrous stroma. In the first group those cells which rest on the fibrous stroma are apt to be columnar and elongated, but elsewhere they tend to be spindle-shaped or polygonal. In the other type the cells are often circular and almost lymphoid in type. No granules can be demonstrated in the cells, but the remnants of the anterior lobe are found at the periphery of the mass as a ring of granular cells.

In January, 1932, Cushing[37] described twelve cases of a peculiar distinct clinical syndrome to which his name has since been attached, in which obesity was associated in four of the eight cases that had come to autopsy with a basophil adenoma in the pituitary. Since then other cases have been published, including one from this hospital, reported by Bishop and Close,[38] in which the diagnosis was made in retrospect a year after the patient's death and verified by the discovery of a small adenoma in her pituitary of typical basophilic cells. The disease occurs typically in young, under-sized adults, usually female. The symptoms are numerous and polyglandular in origin. The disorder is characterised by a rapidly developing painful adiposity, polycythæmia, loss of sexual functions, hypertrichosis of face and trunk in the female and preadolescent male, kyphosis, weakness and backache, purpleish linea atrophicæ and hypertension. The adiposity is confined to the face and trunk with a predilection for the shoulders, pectoral region and abdomen. Other common findings are acrocyanosis and echymoses, glycosuria, osteoporososis and increased calcium output in the urine and a basal metabolic rate

about +20. At autopsy it is often associated with an hyperplasia or an adenoma of the suprarenals and atrophy of the other endocrine glands.

The particular interest of this syndrome lies in the demonstration of the functional interdependence of the endocrine glands, in this type the pituitary in all probability producing secondary changes of a marked degree in the other glands, giving rise to a polyglandular symptomatology. The resemblance to the clinical picture which may be produced by a tumour of the adrenal cortex is very striking, and in the cases recorded by Cushing this diagnosis had been the most frequent.

GONADAL OBESITY

Of all the endocrines probably the ovaries are the most frequent cause of obesity. Abnormal fatness in girls about puberty is relatively common, and probably the ovaries play a considerable part in the "middle-aged spread" that so often accompanies the menopause. The rabid endocrinologist, however, sees the influence of the ovaries whenever obesity is associated with amenorrhœa, even though on reduction of weight by diet alone the periods return in the vast majority of cases. The clinical picture produced by undoubted gonadal dysfunction depends on whether this occurs before or after puberty, and in any case is subject to considerable variation. Before puberty, insufficiency, atrophy, removal or destruction of the gonads leads to delayed fusion of the epiphyses, with consequent increase in height, failure of the development of the secondary sexual characteristics, and a by no means invariable tendency to obesity. The pelvis remains broad, the arms and legs are long, the hair scanty, the skin pale, and they are frequently of a quiet, though often highly intellectual, frame of mind. Typical eunochoidal obesity in the male gives rise to a feminine type of figure with pads of fat in the trochanteric, mammary and suprapubic regions, on the buttocks and the proximal portions of the extremities.

After puberty, gonadal dysfunction in the male may lead to a feminine distribution of fat and hair, while in the female amenorrhœa and sterility are the main symptoms. Bernhardt found that obesity only followed in 40 to 50 per cent. of ovariectomies. The distribution of the fat is similar to that occurring in the castrated male.

HYPOTHYROID OBESITY

In adults, minor degrees of hypothyroidism probably rank second to ovarian insufficiency as a contributory factor in the development of obesity. Fully-fledged myxœdema is uncommon, and not always associated with adiposity. The signs and symptoms of myxœdema are too well known for it to be necessary to describe them fully. The patient is sluggish mentally and physically, with the well-known characteristic facies, and localised deposits of fat above the clavicles, over the lower cervical vertebræ, and around the lower ribs and flanks. Associated with these are the dry, rough skin, the lowered temperature, the slow pulse and a low basal metabolic rate, the average reduction being between 20 to 40 per cent. below normal. This reduction is very useful in diagnosis, but it must be remembered that the terminal stages of chronic nephritis and diabetes, and hypopituitarism, are associated with a lowered basal metabolism.

The diagnosis of the lesser degrees of hypothyroidism is not so easy. It is based on the presence of some of these signs or symptoms, although, naturally enough, as the disease is only in its infancy, marked changes dependent on structural alterations will be absent. The basal metabolism is always low and there is usually an increased sugar tolerance. It often occurs at the time of the menopause, and both the obesity and the menopausal symptoms are quickly relieved by the administration of thyroid in gradually increasing small doses.

RARE FORMS OF ENDOCRINE OBESITY

Obesity is a frequent, but by no means constant, symptom of tumours of the pineal body, the so-called pinealomata. These tumours, when they arise at an early age, produce a premature puberty and gigantism. The obesity is usually moderate in degree and not particularly characteristic in distribution. The first symptoms are usually those of increased intracranial tension, namely, persistent headache, occasional giddiness and dimness of vision, while the early signs are ptosis, papillœdema, loss of upward movement of the eyes, and failure of the pupils to react to light. Pathologically they are characterised by masses of cells arranged in a solid acinar form with groups of cells which are indistinguishable from lymphocytes, and a supporting tissue of collagen fibrils and neuroglial tissue with elongated nucleii. There are frequently areas of calcification.

Suprarenal tumours are even more inconstant in giving rise to adiposity. Two clinical types have been described: (*a*) the obese types occurring in female children and adults; (*b*) the "infant Hercules" type occurring in male children and adolescents. The classification is rough and exceptions to it are frequent. One rare type, the Achard Thiers type, bears a very strong resem-

blance to the Cushing syndrome, and is probably identical with it.

Highly malignant tumours of the suprarenal cortex have not the time to produce obesity, but the slower growing adenomata, the less malignant tumours and the cortical hyperplasias, when occurring before puberty, produce obesity in the female without any unusual muscular development. A precocious puberty is associated with a very decided tendency to the assumption of the male characteristics. The skin becomes coarse, red and dry. Similar changes occur in the female after puberty, amenorrhœa and hirsutism of a very marked degree being early symptoms. So marked may be the assumption of the secondary sexual characteristics that the true sex may be mistaken, particularly when the disease starts in infancy. The distribution of the fat in these cases is on the face, trunk and hips, the extremities being spared. Linea atrophicæ are common on the abdomen, thigh and hips. Hypertension of a constant type, but with wide variations with exercise and rest, is a fairly constant feature.

Pathologically these symptoms may be associated with a carcinoma, an adenoma or with hyperplasia of the suprarenal cortex. In 30 per cent. of cases of cortical tumours, the opposite suprarenal has been either absent or so atrophied as to be inadequate for life. Cecil[39] stresses this in emphasising the importance of examining the other suprarenal at operation for the removal of the tumour. Operation is useless in the pseudo-hermaphroditism of the congenital type and of the Achard Thiers' type, but, apart from these, the results of operation are strikingly successful unless the growth is malignant and secondaries or invasion of the renal veins are present.

THE LIPOMATOSES

Endocrine obesity tends to be localised to definite situations, but this localising tendency is more marked in the group of cases known as the lipomatoses. The ætiology of these cases is obscure and their treatment unsatisfactory. A number of types have been described, amongst which are :—

(*a*) The nodular circumscribed type, with fatty masses mainly about the neck and shoulder.

(*b*) Diffuse adenolipomatoses, characterised by large fatty masses more or less symmetrically arranged about the trunk and limbs. In a variety of this occurring in male adults the fat is localised to beneath the chin, at the nape of the neck, and in front and behind the ears. It may be accompanied by pain and psychic disturbance.

(*c*) Multiple lipomata. Sometimes hundreds of circumscribed lipomata or fibro-lipomata are distributed with some degree of symmetry over the body and limbs.

Dercum's Disease.—A connecting link between the endocrine obesities and the lipomatoses is the peculiar syndrome known as adiposis dolorosa or Dercum's disease. It is characterised by the formation of painful and tender masses of fat, accompanied by asthenia and a very melancholy outlook on life. It occurs overwhelmingly in women usually about the menopause. The obesity is fairly generalised, with the greatest proportion of fat in the region of the abdomen, the posterior aspect of the upper arms and the flexor surfaces of the thighs. The accumulation of fat in these regions may be so excessive that pendulous aprons of fat hang from abdomen and thighs. The disease is usually associated with a lesion of the pituitary or thyroid, which is often small and atrophied. Walton[40] believes that adiposis dolorosa bears the same relation to Frohlich's syndrome that acromegaly does to gigantism.

Lipodystrophia Progressiva.—This should hardly be described in a paper on obesity, as loss of subcutaneous tissues in various parts or even in the whole of the body is the main feature. It is, however, closely allied to the preceding types, and in one variety at any rate, *pari passu* with the complete disappearance of fat in the upper half of the body there is a deposition of fat in the lower half. The disease, like Dercum's, is often associated with psychic disturbances. Neurotropic and endocrine disturbances, alterations of fat metabolism, race and heredity, infection and congenital defect have all been invoked to elucidate the ætiology of the disease. Five of the seven cases reported by Ziegler[41] either had or showed signs tending towards diabetes mellitus. A few patients have been benefited by rest in bed, ovarian extract or whole pituitary.

TREATMENT

The treatment of obesity naturally depends on the cause, but, taken as a whole, the treatment may be considered under the headings of diet, exercise and medicine. Diet is the main standby, and in most cases is the only treatment that should or need be adopted. It is obvious that exercise which would produce any adequate effect on an old patient with hypertension and a fatty heart is the last thing that is going to benefit him. Similarly there are certain groups of people who tolerate reduction cures badly or in whom the rate of reduction must be slow. Typical of the first are those at the extremes of life ; of the latter are those with hypertension, heart disease, tuberculosis, goitre or any chronic disease.

At the onset of treatment it is essential that the interest of the patient be aroused, as it is on his determination to carry out the treatment that success depends. A careful history of the patient's previous habits with regard to food is essential. Correction of some simple dietary error such as over-eating of some particularly fattening food, or too frequent meals, is far more likely to result in a permanent reduction in weight than any temporary restriction in diet. Too great an indulgence in carbohydrate is by far the most common dietary error, particularly in middle-aged women.

Diet.—For those in whom a loss of a stone or a stone and a half is all that is necessary, and these form the bulk of those whose weight needs reduction, all that is required is to curtail the visible fats of the diet, that is, butter, cream, the fat of meat, gravies, pastries and salad oils. If greater restriction is necessary, some of the more concentrated carbohydrates must be sacrificed. Sugar, bread and potatoes are the more obvious foods whose amount can be reduced.

In the more confirmed types of obesity dietary restriction will have to be more strict. The methods that have been adopted vary from complete starvation to very simple changes from a normal diet. The sane reducing diet lies between the two extremes. The optimum weight loss, speaking generally, is about one to two pounds per week. A loss greater than ten pounds per month in inadvisable for most people. As a general rule patients feel very much better after a reduction cure, but there is a type who become irritable and are unable to sleep if their weight be reduced too drastically. As Harrop[42] emphasises, "Proper mental balance and poise is of infinitely greater importance than an excess of ten pounds over the calculated ideal weight."

Treatment by starvation depends on the fact that under such conditions the body uses its fat as a source of energy. Starvation need not necessarily be carried out for any length of time. A starvation day a week or three consecutive days a month have many advocates. Fluids in the form of tea, coffee or clear soups are unrestricted. Resumption of a normal diet is preceded by a few days on a light diet. Prolonged starvation for two or even three weeks has little to recommend it, and to many patients it would be definitely dangerous. There is little doubt, however, that after the initial few days have been endured, starvation does produce a very definite feeling of physical fitness and mental well-being, without any cravings for food. The shadow of tuberculosis lurks in the background of those of normal weight who would be slimmer, and it is only too common after the indiscriminate use of thyroid or proprietary weight-reducing drugs.

The maintenance of the nitrogen equilibrium is the most important essential in the construction of a suitable diet. From 1.0 to 1.75 grms. of protein per kilogram of body weight is the amount usually recommended. An adequate protein intake reduces the amount of tissue protein utilised to a minimum, while at the same time exerting its specific dynamic action. Fat restriction is an important item. Carbohydrate is a more efficient sparer of protein than fat, and it is usually recommended that it should provide half the calories of the diet. Vitamin-containing foods are essential, and salads, green vegetables and fruits are very useful in this respect, besides greatly increasing the bulk of the food with a negligible increase in caloric value. The satiety value or the power to appease hunger of fats is lost, and meat, clear soups and potatoes accomplish most in this respect. A maintenance diet may then be constructed on the basis of the patient's ideal weight. In general, for persons in ordinary sedentary occupations 35 calories per kilogram of body weight may be taken as the maintenance figure. A reduction of 15 to 40 per cent. below this figure usually gives a satisfactory loss in weight.

The gradual reduction in diet from one just below the maintenance to one considerably below is the method most commonly adopted. Various diets have been recommended by their originators. The more famous are those of Van Noorden, Harvey-Banting, Hertel and Spriggs. They are substantially the same except that Spriggs's diet contains a higher proportion of fat to protein. The calorie value and relative amounts of fat protein and carbohydrate are shown in the following table :—

	Protein in Grammes.	*Carbohydrate in Grammes.*	*Fat in Grammes.*	*Calorie Value.*
Van Noorden, minimum diet	155	112	28	1,300
Harvey-Banting	172	81	8	1,100
Oertel, maximum diet	170	120	45	1,600
Spriggs, Maximum diet	86	91	66	1,340
„ minimum diet	54	48	34	700

Exercise.—Exercise is of greatest value when the weight has been considerably reduced and the patient is healthier and better able to tolerate it. The drawback to exercise is the increased appetite it engenders, which is too often satisfied. Graduated exercises are of value in toning up the muscles left flabby by the removal of the fat which had previously been infiltrating them. Massage has little place in the treatment of obesity. The benefit lies mainly with the masseur. Like the Bergonie chair, however, it is not to be too wholeheartedly despised if it is available and exercise is contra-indicated.

Medicine.—Medicinal treatment, apart from those cases where an endogenous element is definitely present, is condemned by most authorities except Van Noorden, who has used thyroid for many years. Dunlop and Murray Lyon recommend its use after the effect of a reduced diet has spent itself and a further reduction in weight is necessary. It should always be carefully controlled and always commenced in small doses of about $\frac{1}{4}$ to $\frac{1}{2}$ gr., being gradually increased until a satisfactory reduction in weight ensues or until the limits of tolerance are reached. Thyroid has the disadvantage that it utilises the tissue proteins as well as the fats and, unless carefully controlled, gives rise to the unpleasant and harmful effects of hyperthyroidism. A trade preparation, elityran, has been recommended as giving the maximum weight loss with the minimum of toxic symptoms. If there is fluid retention, theocin sodium acetate, 3 gr., will help weight-reduction considerably.

ENDOGENOUS OBESITY

Substitution therapy is of value in hypothyroid, hypopituitary and ovarian types. In hypothyroidism occurring usually at the time of the menopause both the obesity and menopausal symptoms are greatly improved by the administration of thyroid. Anterior pituitary extract or thyroid by themselves have little effect on pituitary obesity, but if the two are combined give very encouraging results in some cases, though equally disappointing in others. Pituitary whole gland is generally used because of expense, and may be started in doses of 1 gr. by mouth, increasing to 3-4 grains (expense only limits the dose), thyroid commencing with $\frac{1}{4}$ to $\frac{1}{2}$ gr. should be added later and increased if necessary. These doses are for juvenile Frohlichs and larger doses may be necessary in adults. In ovarian adiposity, theelin by injection or theelin and prolan combined may be given, and sometimes produces excellent results. It must be emphasised that diet alone will reduce the weight of nearly every case of endogenous obesity, and should always be combined with the substitution therapy.

Operation or treatment by deep X-rays will, of course, be necessary in those cases due to tumour.

RESULTS OF TREATMENT

Depending on the severity of the diet, the weight loss may be rapid, or slow. As a general rule, the loss of weight is rapid at first and, although the patient perseveres with the same or an even stricter diet, the loss of weight becomes appreciably slower after two or three months. Variations in the water content of the body account for some of the anomalous results sometimes seen when patients on a diet far below their maintenance value may even put on weight. The greater the weight, the more rapid is the loss, but the tendency to regain weight is also increased. The associated symptoms and signs are all improved. Blood pressures fall, inverted P.'s and T.'s in Lead 3 regain their upright postures, and periods return to anxious women.

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From Germany

By D. W. C. Northfield, Esq., F.R.C.S.

WHEN friends heard that I contemplated a sojourn in Germany there were ejaculations of surprise and warnings of the many dangers to which I should be exposed. Papers were full of excited comments upon the unruliness that reigned in that country, and I was regarded, perhaps, as foolish not to change my plans. But, as is generally the case, subsequent events proved the newspaper attitude to be largely an hysterical one.

I left Liverpool Street one evening at 8.30, *en route* for the Hook of Holland, with a feeling of considerable excitement at what discoveries the next days and weeks would bring.

My first exciting encounter was with a Dutch porter. He refused a tip in English money, which currency he thought "no good." I believe he lost on the deal, for I do not know to this day whether I eventually gave him, with much confusion, the quivalent of 3*d*. or 9*d*.! The morning was propitious for the new venture: glorious sunshine, a clean-looking country and a most polite guard who spoke perfect English. The Customs officers, who boarded the train at Bentheim, seemed only interested in the amounts of tea or of money being brought into Germany. My second adventure occurred in Berlin, where I stayed the night, for I had left my sponge bag and contents on the boat; so I was unwillingly forced to make a shopping expedition in a very halting, stammering fashion at the nearest chemist. However, like the guard, it seemed a privilege to him to be allowed to help!

Breslau was reached early the next afternoon, and now I had to find living quarters. I proceeded to visit in turn three addresses which had been recommended to me by the Breslau University secretary. The first, a kind of hostel, was already full. I was pleased, as it seemed permeated with the aroma of cooking food. The second was closed, probably owing to recent political troubles. my taximan was now quite interested in the hunt, and no longer tumbled out the luggage at each stop. At the third hotel he waited without, while I tried to explain to the proprietor how dear the prices were. We settled on very reasonable terms and I moved in. I have never regretted the choice, for the staff here have been most helpful, and always ready to do one a service.

The most striking feature of Breslau to me so far is its traffic. There is a death roll of 400 per year, with a population of 500,000! But the vehicle is considered first and the pedestrian must flee. The motor drivers show no courtesy to one another, and demonstrate execrable faults of driving as judged by London standards. Further, all cars are fitted with high-pitched, high-frequency horns, which are voiced for seconds long every 50 yards or so for no reason. Finally, there is a persistent torrent of bicycles. The town is well kept, orderly and clean, though there are not many handsome buildings. It is situated on the Oder, along the banks of which the population makes its Sunday parade, whilst many of the younger men spend their time in "faltboots," light, collapsible, canvas skiffs. These are extremely popular in Austria and Germany, as are sculling and cycle racing. Six-day cycle races take place around the great Stadium, two men as partners riding and resting by turns.

Breslau possesses a very great medical tradition. Amongst the illustrious men who have worked here are Koch, Minkowsky, Mickulickz, Wernicke, Purkinje and Pfeiffer. At the old hospital Wernicke and Professor Foerster (then assistant to Wernicke) used to work. It lies opposite the Allerheiligen Hospital, a part of which dates back to the 15th century. The hospitals are of three

varieties. A few are of a voluntary nature and have largely a religious support. There are the University Clinics and, finally, the Stadt hospitals, which correspond rather with the position of our L.C.C. hospitals, with added teaching facilities. The hospital to which Professor Foerster is attached was founded originally by the beneficence of one Weazel-Hancke, and later acquired by the town. It is rather larger than Guy's, and is similarly divided into buildings for the various departments and the "works." The dangers of town traffic have their counterpart even within these precincts, for the laundry, food, etc., is conveyed round the grounds on trolleys towed by a small electric power unit complete with its blatant hooter. The grounds are extensively cultivated, and daffodils and hyacinths in profusion make the gardens very delightful for the patients.

The neurological department totals some 120 beds, male and female. All varieties of disease are to be found, but especially neuro-syphilis, disseminated sclerosis, anterior poliomyelitis, "striatal syndromes," in which the Professor is so interested, and tumours. Further, the department acquires many rare cases, for at present there is a most marked Huntingdon's chorea and Wilson's disease. Similarly, the store of pathological specimens boasts many of the rarer types, including three chordomata! There appears to be no difficulty in retaining cases of great interest for an unlimited period of time; one poor youth has been an inmate for five years! From a surgical point of view it has been a little disappointing that so few new surgical cases have been admitted recently. It would have been a most valuable experience to have seen an antero-lateral chordotomy performed here, as Professor Foerster has worked so hard to popularise this operation, of which he was the pioneer.

New cases are seen in the morning by the Resident and a clerk in a separate examination room. The clerk is a recently qualified graduate interested in the subject, who makes out the records. These are kept in this room and not in the wards. All fundus examinations are made by the old "retinoscopy" method. Electric ophthalmoscopes are never used. Daily, about noon, the Professor makes a round of varying length, when he sees new or interesting cases and suggests treatment, etc. Very little teaching takes place on these rounds. During term, however, once or twice a week a clinical lecture is given, illustrated by lantern slides. These, I am told, are "munderbar," and well I can believe it. The Professor has a marvellously clear mind, a critical judgment, an immense knowledge of neuro-physiology, and a memory like that of "Frankie" Steward.

In addition to a Resident for each of the male and female divisions, there is a chief assistant corresponding roughly to a registrar. He is entitled to the term "Privatdozent" and has a definite status in the University. Not concerned with records, he helps the Residents, teaches, has ample time for personal investigations, and eventually such a post leads to a professorship.

One or two outstanding features about ward life may be mentioned. Smoking is permitted in all the male wards. Screens are never used, and a bath is installed in each ward for the occupants. This is in common with other hospitals in the town. Ventilation apparently does not exist, unless it occurs once only night and morning. Very seldom does one see a window open, and some of the wards are insufferably close. The beds have no numbers, but carry a board at the head on which the patient's name is printed. Thus all patients are addressed by name, which is a very admirable method.

Of the ancillary methods of treatment, electrical stimulation alone seems to be used. For re-education of the lower limbs, the patients perform a sort of goose-step, supporting themselves between two parallel bars. This excellent apparatus is installed in the middle of the ward, and produces remarkable improvement in all types of nervous disorder of walking, whether anterior poliomyelitis, tabes or spastic paralysis.

The pathological department has Dr. Gagel at the head, a charming Bavarian with a voracious appetite for work. There are two technicians, girls, who embed, cut and stain sections. It is usual to find girls doing most of the technical work in the laboratories. All pathological specimens of the nervous system are kept, and there is consequently an enormous store of material. Corresponding to each brain is a series of the relevant microscopic sections, frequently with excellent micro-photographs. At present this department is sadly hampered by lack of space, but a new building is being erected by the Rockefeller Foundation, which will adjoin the department. This will house the pathological laboratories, museum, animal quarters and laboratories for experimental neuro-physiology.

To me, the position of the practitioner in Germany seems unique. So far as I can understand it, after qualification the graduate must spend one year of clinical work attached to a hospital, four months being allotted to internal medicine. This period completed, the would-be general practitioner must apply to the Aerztekammer, or medical council, of the State in which

he proposes to practise. Having examined the papers from the hospital where this post-graduate year was spent, he is given formal permission to practise. He may describe himself on his plate as Aerzt. If he wishes to practise a speciality, surgery, gynæcology, etc., then a further four years must be spent in a clinic in the exclusive study of this subject. Following this, the Aerztekammer makes out the necessary certificate, and on his door-plate may be used the term "Facharzt," followed by the name of the speciality. Finally, to make the position less attractive financially, I gather that the great majority of the population belongs to some type or another of insurance scheme. Thus the medico must gain admission to one of these before he can hope to earn any money. Private patients as we understand them are at present very scarce.

One cannot conclude these remarks without some reference to present events in Germany. Naturally, it is impossible to appreciate the various political feelings that exist without long residence in the country. It is foolish to try and comment on politics or criticise the various measures recently taken. Sufficient damage is done daily in the papers by journalists and politicians themselves. Wild reports on both sides are best disbelieved from the outset. One outstanding feature, however, can be personally observed. The excellent behaviour of all types of people—police, Nazis and populace. One and all they seem very happy and carefree. Reports suggest that police and Nazis parade the streets with drawn truncheons and revolvers in hands, seeking trouble. This, of course, is absolute nonsense. Neither do Jews walk the streets with frightened glances, as though expecting any moment a blow on the head. To a visitor everything appears as peaceful as London, without the slightest hint of any political upheaval, though one knows it is in progress.

Notices

Guy's Hospital Medical School

SCHOLARSHIPS IN ARTS AND SCIENCE

The following awards have been made for 1933 :—

Entrance Scholarship in Arts of the value of £100—
Ian Alexander Ross Mackenzie, Fettes College, Edinburgh.

Entrance Scholarship in Science of the value of £100, *Divided between*—
Leon Grundstein, Raines Foundation School.
Harold Ernest Moody, Alleyn's School, Dulwich.
Leslie Frederick William Salmon, Rutlish School, Merton.

Confined Scholarship in Science of the value of £100—
John James Davis, Reading School and Preliminary Science Classes, Guy's Hospital Medical School.

T. B. JOHNSTON,
Dean.

Guy's Hospital Dental School

SCHOLARSHIPS IN ARTS AND SCIENCE

The following Awards have been made for 1933 :—

War Memorial Scholarship in Arts, of the value of £40 *per annum for four years*—
John Anthony Cotterell, King's School, Rochester.

Entrance Scholarship in Science, of the value of £40 *per annum for four years*—
Denis Walter Bugg, Kingsbury County School, Middlesex.

T. B. JOHNSTON,
Dean.

Guy's Hospital Christian Union

There will be an Open Meeting of the Christian Union in the Physiological Theatre on Friday, June 9th, at 5.15 p.m.

The speaker will be the Rev. J. R. Walkey, of Cambridge and the Royal Air Force.

All are cordially invited.

Guy's Hospital Nurses' League

THE Annual Meeting of the Guy's Hospital Past and Present Nurses' League was held in the Nurses' Home on Friday evening, May 5th, 1933. About 300 members were present to enjoy an excellent dinner before the meeting at 8 p.m., and after this prizes were distributed to present nurses and to those successful in the yearly needlework and photography competitions.

This annual event is one of the friendliest meetings possible. We are always pleased to welcome members of Council (this year, Mrs. Cook, Mrs. Davies-Colley, Mrs. Eason, Mrs. Hughes and Mrs. Ormond), and our Superintendent is always present to make it necessary to say, "Ladies *and* Gentlemen." Barriers of time and space melt away as one greets members of "one's set" who entered Guy's 10 or 20 years ago, as the case may be. Reminiscences are grim and gay, and reputations good and bad are handed down through the years in the excited gossip of reunion: "Do you remember that day when Mr. . . ."—"Never shall I forget Sister . . . Oh! there she is, looking younger than ever!"

However, to business first and gossip afterwards. The Matron welcomed the members and the beloved President (for over 30 years), Lady Bonsor, introduced Miss Dorothy Smith, Lady Superintendent of the Middlesex Hospital, and invited her to take the Chair. Minutes were signed, reports and statements of accounts were adopted, and the business was got through expeditiously.

The Chairman, Miss Dorothy Smith, gave a brief but telling address on "Propaganda." We were all there, she said, presumably because we loved Guy's, and had enjoyed our training there, and if we thought nursing was a good thing to do we must help the Matrons to educate the public better as to conditions of training. She still had parents asking such questions as, "Will my daughter have to scrub floors?" Even she herself, Miss Smith said, had not had to scrub floors, and she begged all present to help the public to understand conditions in hospitals, so that suitable candidates would come forward with more confidence.

The Chairman's address was followed by votes of thanks to the retiring hon. members of Council—The Viscountess Goschen, Mrs. E. C. Hughes and Mrs. Eric Scott; to the Hon Treasurer, Mrs. Ogilvie; the Hon. Secretary, Miss MacManus; the Secretary, Miss Smith; the Chairman and the President, Lady Bonsor.

REPORT OF THE HON. SECRETARY

Between 60 and 70 Associate Members have been transferred to the Past Members' Section of the Nurses' League during the year.

Sisters and nurses have spent 116 week-ends, days and nights "off" at the Cottage, and over 1,600 short visits have also been paid. 15 Past Members have stayed at the Cottage for short periods during the year.

1,640 volumes have been taken out of the Nurses' Library during the year; 32 new books have been added to the Fiction Library and 8 medical books have also been added to the Library, bought with fine money collected during the year. A few books have been given by nurses, but no other gifts have been received.

The Nurses' Tennis Club was again unfortunate in the *Nursing Times* Tennis Competition. The team started well, beating the Brook Hospital and the Carshalton Hospital in the second round, but they lost in the third round against the Middlesex Hospital. The Fagge Cup Competition started in May with between 40 and 50 entries; the Final was played off at the Cottage in November. The finalists were Sister Dorothy Payne and Nurse Dilys Jones. As Mrs. Fagge was unable to be present, Mrs. Ryffel came and presented the Cup to the winner, Sister Dorothy Payne. Several friendly matches and games have also taken place.

The Nurses' Swimming Club was not successful in its efforts to win the Inter-Hospital Challenge Cup, but gained several successes in a large number of friendly Inter-Hospital Competitions. On November 14th, we had our own Swimming Gala in the Swimming Bath of the Nurses' Home, when the team race for style and speed took place for Miss Hogg's Cup. The race was one of the most exciting events of the evening, and the Cup was won for the first time by the Electrical Department, who beat the Massage Department by two points. Next year we hope to see the Nursing Staff victorious. Eight nurses competed for Lady Fripp's Cup for various swimming strokes, and it was won again this year by Nurse E. M. Lloyd.

The Nurses' Debating Society during the year has held two very successful debates on the following subjects:—

1. That in the interests of progress of this country the cinema should be discouraged.
2. That Prohibition would be desirable in this country.

Both meetings were very well attended, and in both cases the motions were defeated by overwhelming majorities. In addition to the above debates, the Nurses' Society met the Students' Society to discuss the motion "That this House is in favour of total and world-wide disarmament." This meeting took place in the Revelstoke Lecture Hall with Dr. Ryle in the Chair. After much heated and well-informed argument the motion was defeated by 10 votes only, there being 56 supporters and 66 opposers. It is hoped that from time to time joint meetings will be held by the two societies.

The exhibition of photographs, paintings and sketches now on view in the sitting-room of the Nurses' Home are not so numerous as last year, but the photographs sent in are extremely good, and it was very difficult to make the awards. Among the small prints there are many interesting snapshots of foreign countries.

With regard to the paintings and sketches, the number of exhibits was very disappointing, but Mrs. Hughes, who kindly came and judged this section, was very pleased indeed with the improvement shown this year. Unfortunately, some of the exhibits arrived after the judging had taken place.

Mrs. Burgwin, who again kindly judged the needlework, thought the work of very good standard. Plain sewing does not seen very popular, but the coloured embroidery section has gained in popularity and the work sent in is very good. The dressmaking section shows the very latest fashions and boasts of a riding habit worthy of Saville Row.

A very delightful afternoon was spent last July at the Cottage at Honor Oak Park on the occasion of the Reunion of League Members. Many past nurses were present, and we were pleased to welcome the Treasurer and the Hon. Mrs. Whitbread, several Governors, some members of the Medical Staff and their wives. This year the Garden Party will take place on June 21st.

The Cosmo Bonsor Memorial Fund, which is being raised ultimately to bring in an annual income of £100 to provide a course of Post-Graduate Study at home or abroad for a Guy's nurse, has now reached £319 4*s.* 0*d.* This year the Present Nurses have worked very hard, and in April organised a dance which brought in a sum of £10 15*s.* 0*d.*; the proceeds of their concert last month amounted to £76 16*s.* 6*d.* As you know, our aim is to collect £2,000, but that will take a long time, and when we reach £1,000 we shall begin to grant the scholarships, probably £100 biennially.

The Treasurer's Appeal to members of the Nurses' League to help the hospital in its financial difficulties has resulted in a sum of £211 17*s.* 6*d.* 28 members have promised yearly subscriptions and 146 donations have been received up to the present date.

THE INTERNATIONAL MEMORIAL TO FLORENCE NIGHTINGALE

Since 1920 the League of the Red Cross Societies has provided facilities to outstanding nurses who, through the recommendation and with the approval of the National Red Cross Society of their countries, have obtained post-graduate education of a very distinctive kind, and, thanks to the interest shown by the British Red Cross, which in turn enlisted the support of the College of Nursing, a system was evolved by which Bedford College for Women (University of London), in conjunction with the College of Nursing, provided special courses in Public Health Nursing and Hospital Administration for a group of 15 to 20 international students presented by the League.

In 1930 the League of the Red Cross Societies decided that their funds would not permit them to carry on the scheme, and unless financial support of the London course could be ensured from outside sources, it must be abandoned in 1932. In October, 1931, it was definitely decided to discontinue the course in 1932, but in 1932 an informal suggestion was made that the courses initiated by the League of the Red Cross Societies might be considered the best available basis on which to build the proposed Memorial to Florence Nightingale. A scheme was drawn up and approved in consultation between representatives of the League and the International Council of Nurses through the initiative and under the chairmanship of Sir Arthur Stanley. As the International Council of Nurses did not meet until July, 1933, it was decided, in order to keep the scheme alive, that the different countries should make themselves responsible for the 15 scholarships for one year. Great Britain undertook to raise five, but, through the splendid efforts made by the National Council of Nurses, its affiliated organisations and the British Red Cross, nine scholarships have been guaranteed. It had been suggested that the Leagues of the large London hospitals might consider one scholarship, to be called after the name of the respective League. We found that scholarships were being given by the London Hospital, St. Thomas's Hospital, St. Bartholomew's Hospital and King's College Hospital, and your Council felt that the Guy's Hospital Nurses' League (the first Past and

Present Nurses' League to be formed) must do their best to give one scholarship.

On looking into the finances of the League it was found that it would not be possible to give this year a sum of £250 without realising some investments, but Mrs. Cook, one of our Hon. Members of Council, came forward with the suggestion that if the League funds would permit half the amount, £125, she would undertake to provide the remainder by giving a dance or series of dances. This offer was at once accepted by the Council, and Mrs. Cook is giving a dance in the Nurses' Home on Friday next, May 12th. She is here this evening and will be pleased to sell tickets, price 10*s.* 6*d.* each, to members. Our cheque for £125 has already been sent to the secretary of the Fund, and the scholarship is given without conditions.

The results of the ballot for the election of Members of Council for the ensuing year is placed on the notice board in the Nurses' Home.

Since our last meeting we regret to announce the death of ten Past Members of the League and two Associate Members: Miss Jessie H. Newton (1903), Miss Florence Ferguson (1914), Miss Phyllis Sidey (1914), Mrs. Lily E. Carroll (née Hindley, 1898), Miss H. R. Rainbow (1898), Mrs. Bertha Morrison (née Poole, 1910), Miss Alice M. Richardson, A.R.R.C. (1889), Mrs. Gertrude Cheney (née Studdert, 1900), Miss Mary Harriet Bryant (1913), Mrs. Rebecca C. Stewart (née Daniell, 1897), Miss Joyce Bray (1931), Miss Mary J. Bourke (1931).

Miss Venning asks me to make the following statement with regard to the Nurses' League Branch of the Guy's Hospital Ladies' Association. This year, membership numbers 126, Juniors 10. There have been a few resignations, but an increase of 18. A cheque for £27 11*s.* 6*d.* has been sent up and the garments are on view. Miss Venning and Miss Talbot will be pleased to receive subscriptions and to give any information about the Association.

In the absence of Mrs. Ogilvie, the Hon. Treasurer, I have much pleasure in presenting the Financial Statement for the year.

The Hon. Members' Subscriptions amount to £45 6*s.* 6*d.* This is a marked increase on last year's figure. The Past Members' Subscriptions and Composition Fees amount to £163 1*s.* 0*d.*, and the Present Members' Subscriptions to £135 15*s.* 0*d.*

The Subscriptions and Grants have again covered the working expenses of the Cottage and of the different Clubs, and we have also paid a sum of £33 6*s.* 8*d.*, part cost of railway tickets to Honor Oak Park. Our income for the year amounts to £722 19*s.* 3*d.*, our expenditure to £724 19*s.* 3*d.*, being an excess of expenditure over income of £1 6*s.* 1*d.*

We have incurred some heavy expenses this year for renewals and repairs (£114 6*s.* 6*d.*). Electric light has been installed at the Cottage, renovations have been made to the Pavilion on the new piece of ground, and there have been sundry other items connected with the Cottage. In addition, our balance at the bank has been lessened by the payment of half the amount required for the Florence Nightingale Memorial Fund. We are, however, able to show a balance of £134 3*s.* 0*d.*, but £25 of this sum has to be put aside for part payment of the cost of levelling the new piece of ground. Our balance last year amounted to £135 9*s.* 1*d.*

MEDALS AND PRIZES FOR THE YEAR 1932

The Butterworth Medal

The Butterworth Medal, instituted by Joshua W. Butterworth in 1889, is awarded to all nurses of Guy's Hospital who shall have completed five years' continuous satisfactory service at the said hospital:—

Sister Dorothy K. Newington.
Sister Dorothy G. Parkins.
Sister Dorothy Payne.
Sister Agnes L. Perkins.
Sister Winifred D. Rogers.
Sister Muriel G. Sanday.
Sister Ethel D. Waller.
Staff Nurse Marian F. H. Barford.
Staff Nurse Iris T. Gummow.
Staff Nurse Barbara L. Maryon.
Staff Nurse Helen E. Pakes.
Staff Nurse Phyllis E. Tollit.

The Cazenove Medal

The Cazenove Gold Medal is awarded to the nurse who shall have obtained the highest aggregate percentage of marks in all the Examinations held during 1931 and 1932:—

Nurse Winifred E. G. Moulton.

The Keogh Prize

The Keogh Prize, consisting of Surgical Instruments, is awarded to the nurse obtaining the highest number of marks in the Surgical Examination:—

Nurse Winifred E. G. Moulton.

The Morrison Prizes

The Morrison Prizes, Medical Books, are awarded to the nurses obtaining the highest number of marks in the Examination in Nursing Subjects :—

April, 1932—Nurse Dorothy E. Tart.
August, 1932—Nurse Henrietta E. Roser.
November, 1932—Nurse Helen E. Arnold.

Bernard Loftus Brown Prizes

The Bernard Loftus Brown Prizes, presented by Mr. and Mrs. A. Loftus Brown, in memory of their son, are awarded to the nurses gaining the highest number of marks in each of the Final Practical Nursing Examinations held during the year :—

February, 1932—Nurse Mary P. Watts.
May, 1932—Nurse Elizabeth J. McEwan.
November, 1932—Nurse Winifred E. G. Moulton.

The Governors' Prize

The Governors' Prize, Medical Books, is awarded to the Probationer obtaining the highest number of marks in the Examination for Special Diseases :—

Nurse Winifred E. G. Moulton.

The Governors' Prize

The Governors' Prize, Medical Books, is awarded to the Probationer obtaining the highest number of marks in the Examination for Pharmacology and Dispensing :—

Nurse Gretchen Leyland.

The Metcalfe Prize

The Metcalfe Prize, presented by Mrs. Metcalfe in memory of her husband, Dr. Metcalfe, of Clare, Suffolk, is awarded to the Probationer gaining the highest number of marks in the Examination in Medical Subjects :—

Nurse Mabel E. Godfrey.

NEEDLEWORK EXHIBITION

PRIZES

SECTION I.—Exhibits that *have not been* washed or cleaned.

CLASS A. *Plain Needlework.*

1st Prize—Child's Frock..... Mrs. Ball.
2nd Prize—Set of Underclothes, Miss Forster.
Highly Commended—Petticoat, Miss Lang.

CLASS B. *Fancy Work.*

Prize—Chair Seat..... ..... Miss Bristow.
1st Prize—Bedspread ..... Mrs. Trick.
2nd Prize—Silk Case ..... Miss Bird.
Highly Commended—Tea Cosy, Miss Bird.

CLASS C. *Lace, Crochet and Knitting.*

Prize—Shetland Shawl ..... Miss Massey.
1st Prize—Jumper ..... Miss B. Dixon.
2nd Prize—Jumper ..... Miss Poyser.
3rd Prize—Jumper ..... Miss J. Impett.
Highly Commended—Pillow Lace, Miss Massey.

CLASS D. *Dressmaking and Millinery.*

1st Prize—Dress .... Mrs. Wood.
2nd Prize—Coat and Skirt Miss Rigg.
3rd Prize—Dress .... Miss P. Griffin.
Highly Commended—Dress, Miss Rigg.

CLASS E. *Arts and Crafts.*

Prize—Rug .... Mrs. Church.
Highly Commended—
Sampler .... Miss Griffin.
Set of 3 Boxes ..... Miss P. Watts.
Lamp Shade ..... Miss S. McDowall.
Two Handbags ..... Miss Joyner.

SECTION II.—Exhibits that *have been* washed or cleaned.

CLASS B. *Fancy Work.*

Prize—Tea Cloth..... ..... Miss F. Whittingham.
Highly Commended—
Nightdress Case ..... Miss M. R. Willett.

PHOTOGRAPHIC EXHIBITION

1933.

CLASS A.—Photographs which are the *entire* work of the Exhibitors.

5. "Belfry of Bruges"—Miss M. W. Sparkes (Prize).
1. "Sun Temple, Gozo"—Miss G. E. Bristow (Highly Commended).

CLASS B.—Photographs taken by Exhibitors, but not developed or printed by them.

2. "Cloud Shadows"—Nurse E. M. Lloyd (1st Prize).
12. "The Bench"—Miss G. A. Fletcher (2nd Prize).
5. "Sunset in Finland"—Miss D. M. Smith (3rd Prize).
9 & 10. "Scenes in India"—Miss I. K. Bevan (4th Prize).

Highly Commended

1. "Chillon Castle"—Nurse E. M. Lloyd.
4. "The Little Mermaid of Copenhagen"—Miss D. M. Smith.
21. "Bruges"—Sister A. Park.
30. "With the Clouds"—Nurse Coleman.
38. "Cornish Cliffs"—Miss L. Oldendorff.
44. "Trebenwith Bay"—Miss L. Oldendorff.

CLASS C.—Paintings and Sketches, being the entire work of the Exhibitors.

13. "Autumn"—Miss A. W. Waterman (1st Prize).
8. "Alsatian"—Nurse Livingstone (2nd Prize).
4. "Sean O'Casey"—Nurse Everett (3rd Prize).
12. "Venice"—Nurse Bates (Highly Commended).

MEMBERS OF COUNCIL FOR 1933

Hon. Members—
Mrs. Stuart Menteth.
Mrs. Poulton.
Mrs. Kelsey Fry.

Choral and Dramatic Society—
Sister Evelyn (Miss Parkins).
Nurse D. C. Longfield.

Swimming—
Sister Helen (Miss Stainforth).
Nurse P. E. Adams.

Library—
Sister Florence (Miss Taylor).
Staff Nurse B. Nockolds.

Garden—
Sister Radium (Miss Hall).
Nurse E. Sambrook.

Needlework—
Sister Luke (Miss C. Bell).
Staff Nurse Impett.

Tennis—
Sister Bright Annexe (Miss Johnson).
Nurse Samuel

Debating—
Sister Hilda (Miss H. Gration).
Staff Nurse Marriott.

Photography—
Sister May (Miss Cawthorne).
Staff Nurse M. Roseveare.

Landon Out-Patient Tea Fund

STATEMENT OF RECEIPTS AND PAYMENTS for the year ended 1st March, 1933

RECEIPTS

	£	s.	d.
To Donations and Collections (as per list)	63	10	1
,, Legacy (Mrs. Landon)	150	0	0
,, Interest on Invested Funds and Deposit	14	17	0
,, Bonus on 5 per cent. War Loan	3	0	0
	£231	7	1

PAYMENTS

	£	s.	d.
By Provisions, etc.	25	19	3
,, Band	16	16	0
,, Films (Hire of)	10	0	0
,, Gifts of Toys, Clothing, etc.	19	16	2
,, Police Fees, Gratuities, etc.	7	11	0
,, Printing, Postages, etc.	3	0	4
,, Decorations, etc.	5	8	7
	88	11	4
,, Balance, being Excess of Receipts over Payments	142	15	9
	£231	7	1

BALANCE SHEET, March 1st, 1933

LIABILITIES

	£	s.	d.	£	s.	d.
Accumulated Funds—						
Amount brought forward from last Account	396	8	1			
Add—						
Excess of Receipts over Payments	142	15	9			
				539	3	10
				£539	3	10

BERTHA MARTIN,
Treasurer.

ASSETS

	£	s.	d.	£	s.	d.
Investments—						
£300 3½% War Loan Bonds (at cost)	300	0	0			
£145 Croydon Corporation 5% 1950-60 (at cost)	150	0	0			
				450	0	0
Cash at Bankers—						
Deposit Account	75	0	0			
Current Account	14	3	10			
				89	3	10
				£539	3	10

Audited and found correct.
W. J. CURRY,
April 28th, 1933. *Corporate Accountant, Auditor.*

The United Hospitals' Motoring Club

OF all the smart clubs you may join if you drive
Should you value prestige and ambitiously strive
To take part in all sports that undoubtedly ring
With the tone of " correctness " and being " the thing " ;
Of all possible clubs, you a member must be
Of the famed (though exclusive) new U.H.M.C.

For just half a guinea I hear that you may
Quickly mix with the mighty and join in their play.
Great motoring medicos, known for their skill
In lapping up miles, while avoiding a " spill."
Think how fine it must be to adopt this new creed
Of reckless contempt for the perils of speed !

But stay ; if you're wealthy enough to indulge
in this craze, if your pockets with half-guineas bulge,
Then spare us pedestrians from yarns fetched too far
Of incredible " averages " kept by your car ;
And if inter-hospital races are staged,
For Guy's see the conflict's victoriously waged.

DOWNATHEEL

(*United Hospital Pavement Crawlers*).

Correspondence

Fees in General Practice

To the Editor of the GAZETTE

SIR,—In common, I expect, with many other old Guy's men my mouth is watering when I read Dr. Douthwaite's article on " Fees in General and Consulting Practice." Although I am sure that the author did not mean to convey the impression, yet I think that the effect of this lecture on those about to launch into practice will be to make them hope that 10*s*. 6*d*. a visit and £10 10*s*. for a " midder " are average fees. I thought the same till I started.

I think I may say without much contradiction that a young man starting out will be mighty lucky if he gets patients paying such fees, and if he does he will find much difficulty in keeping his end up with them. In other words, they will be the older folk of fairly good social standing, and they are apt to be very conscious of the doctor's youth and to treat him accordingly.

Now, Sir, I can claim to be in a fairly representative mixed practice in a seaside town, and I hope you will bear with me whilst I bring up some figures. Last quarter I sent out 299 accounts by post and another 50 by collector, and only two of these were booked at 10*s*. 6*d*. a visit, and the vast majority were at 5*s*. and 3*s*. 6*d*.

The highest fee I have obtained so far for a confinement is £4 4*s*., and the other day my partner and I did an instrumental induction of labour, many ante-natal visits and a forceps delivery for—£3 3*s*.

The new arrival in practice these days will find that the production of children is chiefly confined to the panel class of patient, who get a Maternity Benefit of £2 (or £4 if both husband and wife are insured), and if the urgent priority claim of a wireless set does not take this money you may be able to get £3 3*s*. of it. As a matter of fact, I find that about 20 per cent. of my " midders " welch me, but there is no redress as they have not got the money to pay in advance, and the temptation of a sum in cash is generally too much for a shiftless person to resist when they want other things. Truly, as Dr. Douthwaite says, " it does not pay in general practice," although he appears to have a fee of £10 10*s*. in mind—£10 10*s*. ! Ye gods !

It seems to me that the problem facing the doctor to-day is not what to charge, but how to get it. It is not the man with the thumping big bill who is the difficulty, but the multiplicity of small accounts which, taken together, make up a substantial part of one's income. The former can be turned over to a debt-collecting agency or solicitor, but it is not much fun employing someone to collect the latter at sixpence a week, or less, and giving them a commission for so doing. But it has got to be done when you have " account rendered " these bills three times at a vast cost in stamps, stationery and, above all, time.

Let not our practitioner comfort himself unduly with the thought of quadruple fees as he toils out on a dirty night to some absurd case. From bitter experience I know two things. The first is that an inconsiderate patient is also a bad payer, and the second is that competition is far too strong to enable one to vent one's spleen by booking dramatic fees to these cases.

Finally, let me remind the readers of this (if any) that I am talking of young men early in their careers working at the ordinary " knock down and

drag out " type of practice and not of the chosen few senior men whose comfortable day consists of a handful of patients at £1 1*s*. a time.

Yours, etc., G. P.

To the Editor of the GAZETTE

SIR,—Dr. Douthwaite has delivered himself in his inimitable style of a lecture on fees. In his voluminous writings on general practice and allied topics he is usually not far off the mark, but there are one or two points in this lecture that cannot be allowed to pass unchallenged.

He says, " Midwifery in general practice does not pay. . . . Fortunately, midwives are taking over more and more of this work." Most general practitioners will, I feel sure, disagree entirely with both these statements. Cheap midwifery certainly does not appeal to anybody, but it is a very select practitioner who will turn down the case at five guineas. *Un*fortunately (for the patients and the profession), midwives are taking over more and more of the work in some districts. That a doctor should be regarded as redundant at a confinement is an attitude which is deplorable and disastrous in the extreme.

In censuring the " consultoid " it might be recalled that it is not so long ago that Dr. Douthwaite was a " consultoid " himself, if by that term we understand a general practitioner who has a " room in the Harley Street district." Moreover, the much-vaunted distinction between practitioner and consultant is largely merely academic. We all know very eminent consultants who are also glorified general practitioners. They will, and do, attend eminent patients for anything—cancer, carbuncles or clap.

In his assessment of fees Dr. Douthwaite is, of course, perfectly correct. A consultant's fee *should* be at least three guineas. It is in the interest of everybody that these fees should be kept up. If the consultant's fee falls to a guinea, the practitioner's usual fee will fall *pro rata* to about eighteen pence or less. No mention is made of the scheme recently set afoot whereby certain consultants put their names on a list of specialists willing to see patients of a certain economic status at a fee of one guinea. At a meeting which considered this matter Dr. Douthwaite's was one of the few voices raised in protest. If it were tacitly understood that a scheme of this sort should include only very junior consultants there might be something to be said for it. Unfortunately, the list contains the names of many of Dr. Douthwaite's most eminent colleagues, which may, perhaps, account for his omission to comment upon it.

Yours, etc.,

A GUY'S G.P.

To the Editor of the GAZETTE

SIR,—Dr. Douthwaite's pronouncements are always interesting, sometimes provocative; but his radiant picture of fees in general practice quite definitely does not represent the average. In view of the composition of the population, how can it? And when the Factory Act lays down such scales of remuneration as that for a Certifying Surgeon (unsalaried), who gets 2*s*. 6*d*. for going a mile and examining five young persons for fitness for employment, what can one expect from the public?

My own practice is, perhaps, very slightly on the prosperous side of average for this part of the world; is one-third urban and two-thirds rural; one-sixth panel and about another quarter panel dependents.

There are a few really wealthy folks who would not know you had been if you charged them less than a guinea, and it is difficult to see the distinction between charging them above the normal rate, which Dr. Douthwaite so reprobates, and calling your normal rate a guinea and charging nearly everyone less.

There are a few who expect to pay 10*s*. 6*d*., but the vast majority can't possibly rise to more than 7*s*. 6*d*. or 5*s*. and mileage; and if one considers the income of the majority of the population it stands to reason it must be so.

In the Surgery there will be far more 3*s*. 6*d*. fees than 5*s*. It ought to be more, but in the average practice it simply can't be done.

Then as to mileage. I do well over 15,000 a year, and the County Council generally allows, for emergency midwifery, often at night, *not* 10*s*. 6*d*. one way, but 9*d*. *after the second mile*!

My total gross income is about three-quarters of what I should get for mileage alone on Dr. Douthwaite's scale. I have good country houses from four to eight miles away, who certainly would not be pleased to pay any G.P. from £3 3*s*. to £5 5*s*. per visit.

And how can a farm labourer, eight miles away, with 35*s*. a week and six children, pay more than 5*s*. per visit, mileage and medicine, if there are several visits?

As regards fees for frivolous calls, the theory is sound enough, but it is often the frivolous calls which are never intended to be paid for at all. One of the best pictures of G.P. I have seen was on page 36 of *Punch*, January 14th, 1931. It is a wonderful skit, because it is so very nearly true. If all students could have a reprint of it they would start practice with fewer illusions.

It is a temptation to illustrate the above with some tales of G.P., but I have taken up enough of your space.

Yours, etc., Q. S. GABB.

An Appreciated Gift

To the Editor of the GAZETTE

SIR,—To all the past and present Resident Obstetricians. Through the courtesy of the Editor of the *Guy's Hospital Gazette* I would like to express my most grateful thanks for the highly appreciated gift from those with whom I have worked.

It will be a constant reminder of all the happy times I have spent at Guy's.

Yours, etc.,

N. CRUMP.

21, Hillside Gardens,
Wallington.

United Hospitals' and University of London Motor Club

To the Editor of the GAZETTE

SIR,—May I, through your columns, draw attention to the United Hospitals' and University of London Motor Club which has recently been formed?

The Club is open to past and present members of the University at a subscription of half a guinea a year. There is no entrance fee, and a badge will be ready shortly, while the Founder Membership is still available.

Its objects are the furtherance of all forms of motor sport and the promotion of a friendly contact between members of the different branches of the University. In the organisation of trials and other competitions it is our aim to prove that these can be provided without the usual high entry fee, without damage to cars, and at the same time allow of the presentation of awards worth the winning.

The first general meeting was held recently, when the officers of the Club and a temporary committee were elected. Mr. B. C. H. Davis kindly consented to become our Patron and Dr. J. D. Benjafield the President, while we are fortunate to include in our membership other eminent men of the motoring world.

I shall be pleased to supply particulars of the Club to all those interested.

Yours, etc.,

E. F. GLEADOW,
Hon. Secretary.

96, Queen's Court,
Queen's Road, W.2.

Reviews

Internal Derangements of the Knee-Joint; Their Pathology and Treatment by Modern Methods. By A. G. TIMBRELL FISHER. Second Edition. Published by Messrs. H. K. Lewis, Ltd. Pages 205, xiv. 120 Illustrations. *Price* 15*s.*

THE second edition of this book has been thoroughly revised and much new matter added to include, as far as possible, work published since the first edition in 1924.

It is written in a clear and concise style, and the numerous illustrations and radiograms are excellent. The anatomy and physiology of the knee-joint are dealt with in a particularly lucid manner which leads to an easy understanding of the mechanisms by which the various traumatic intra-articular lesions are brought about. Lesions of the cartilages are dealt with very fully, and an analysis of the end results of a series of cases operated upon by the author is given. There is a very good chapter on loose bodies in the knee-joint, but the chapter on chronic arthritis is disappointingly brief.

The differential diagnosis of the various forms of internal derangement is discussed at some length, and this part of the book in particular merits a careful study.

Treatment and after-treatment by both operative and non-operative methods is given, and the value of physiotherapy in the various conditions which are not amenable to operation is clearly defined. Statistics of the relative frequency of occurrence of different types of derangement and the end results to be expected from their treatment have been culled from writings of various authorities and have been correlated.

This book can be heartily recommended to the student, the practitioner, and to all interested in the pathology and surgery of the knee-joint.

Principles of Full Denture Prosthesis. By E. WILFRED FISH, M.D., L.D.S. Published by Messrs. Bale, Sons & Daniellson, Ltd. *Price* 10*s.* 6*d.*

THIS is a book essentially for those who are familiar with the anatomical, physical and mechanical conditions of the mouth. Academically, the pith of the book lies in establishing and encouraging consideration of the three surfaces of the denture, namely, the impression, the polished and the occlusal.

The author explains clearly the ideals for which he is striving. He does not, however, describe

nearly so clearly the methods of collecting the necessary data. It also seems a pity that he empirically relieves and creates pressure both on the impression and on the model when there is an apparently more scientific technique, viz., the compression impression technique. He overlooks the fact that there are conditions which require a particular technique for the best results.

The author's idea of producing reciprocal pressure in definite directions by means of the occlusal plane sounds very attractive, but how will this scheme affect the balance of the dentures during lateral excursions of the mandible and what will be the action of the bolus?

The blank right-hand page in the text is very desirable, but it seems unfortunate that the diagrams, which are good, are grouped at the end.

Finally, the author in any case shows us a sound method of attack which we should do well to copy.

Pyorrhœa Alveolaris. By F. W. BRODERICK, M.R.C.S., L.R.C.P., L.D.S. Published by Messrs. John Bale, Sons & Danielsson, Ltd. Crown 8vo, Cloth. Pages 88, iv. *Price 7s. 6d.*

THIS is the essay which gained the Cartwright Prize, 1926-30. Mr. Broderick considers pyorrhœa to be one part of a syndrome dependent upon an upset in metabolism. An alteration in the acid-base balance of the blood towards an alkalosis causes deposition of calcium salts in the subgingival spaces from the blood serum. The recession of the periodontal membrane attachment is the result of these deposits. A well-reasoned theory, though it is not explained why calculus from the *saliva*, which latter itself mirrors the metabolic upset, is sometimes abundantly present in cases where no seruminal calculus is found. Differential diagnosis and treatment are discussed.

A Short History of Dentistry. By LILIAN LINDSAY. Published by Messrs. John Bale, Sons & Danielsson, Ltd. Crown 8vo. Pages 88. *Price 3s. 6d.*

AN entertaining and instructive survey of the growth of dentistry from 3,000 B.C. Then it was left to a worm "to destroy the blood of the teeth and of the gums chew their marrow." How sad that there is less confidence in the ætiology of caries and pyorrhœa to-day.

Mrs. Lindsay has roamed over a vast field.

Guy's Hospital Athletic Sports

THE Annual Sports Meeting was held at Honor Oak Park on Saturday, May 13th, and fortunately the weather was fine, but the attendance was poor. However, there was plenty of enthusiasm and, although no new records were established, there were some exciting finishes.

Guy's have several promising athletes, and there is no doubt that, with a little coaching and further training, several will do well in the future.

P. Griffin won the Clement Lucas Cup by winning the 440 yards and obtaining second place in the 100 yards, long jump and high jump. He had very bad luck in the hurdles, which he should have won easily; after establishing a commanding lead he caught his foot at the last hurdle and was unable to make up the lost ground.

A very close finish was seen in the 220 yards, and after a ding-dong struggle between Clough, Groom and Harvey, the former managed to breast the tape by inches.

The mile was also a good race between Etheridge and Dryland. The former quickly established a lead of 20 yards, which he doubled during the second lap, and at this stage it looked as though he would repeat his success in the three miles, which he won without exerting himself. However, Dryland made a great effort and gradually managed to reduce the gap, and a hundred yeards from home a great struggle ensued which Dryland won on the post.

The obstacle race caused a good deal of amusement, and a new innovation was a race for ladies, which only attracted some five entries.

Mrs. Davies-Colley kindly presented the medals and prizes to the successful competitors, and at the conclusion the Secretary of the Club thanked all the members of the Staff and A.A.A. officials who had so kindly assisted as judges, time-keepers, etc.

RESULTS

CHAMPIONSHIP EVENTS

100 *Yards.*—1. Harvey, R. W.; 2. Griffin, P.; 3. Wright, C. G. Time, 10½ secs.

220 *Yards.*—1. Clough, E. O.; 2. Groom, W. A.; 3. Harvey, R. W. Time, 24 2/5 secs.

440 *Yards.*—1. Griffin, P.; 2. Brown, A. G. T.; 3. Hardenburg, H. E. W. Time, 56 secs.

880 *Yards.*—1. Fernando, W. E.; 2. Dryland, G. W.; 3. Dennis, D. F. Time, 2 mins. 13 1/5 secs.

1 *Mile.*—1. Dryland, J. W.; 2. Etheridge, A. E. J. Time, 4 mins., 53 secs.

3 *Miles.*—1. Etheridge, A. E. J.; 2. Dryland, J. W.; 3. Fernando, W. E. Time, 16 mins.

120 *Yards Hurdle.*—1. Harvey, R. W.; 2. Henderson, R. L. V.; 3. Rushby, F. W. Time, 17 3/5 secs.

High Jump.—1. Revell, L. C. B.; 2. Griffin, P.; 3. Rushby, F. W. Height, 5 ft. 5 in.

Long Jump.—1. Revell, L. C. B.; 2. Griffin, P.; 3. Thomas, J. E. Distance, 19 ft. 7 in.

Throwing the Hammer.—1. Smit, J. A. R.; 2. Kark, M.; 3. Groom, W. A. Distance, 94 ft. 7 in.

Throwing the Javelin.—1. Dingemans, C. A.; 2. Brown, A. G. T.; 3. Denton, P. H. Distance, 123 ft. 2 in.

OTHER EVENTS

Putting the Shot.—1. Kark, M. R.; 2. Dingemans, C. A.; 3. Denton, P. H. Distance, 33 ft. 11½ in.

Throwing the Discus.—1. Leask, A. R.; 2. Thomas, T. E.; 3. Kark, M. R. Distance, 85 ft. 2½ in.

Ladies' Race.—1. Miss Malleson; 2. Miss Curtis.

Visitors' Race for Men.—1. Crampton, P. H.; 2. Milton, L. E.; 3. Somerville-Woodivis, L. B.

440 *Yards Handicap.*—1. Groom, W. A.; 2. Fernando, W. E.

Obstacle Race.—1. Groom, W. A.; 2. Henderson, R. L. V.; 3. Harvey, R. W.

Relay Race.—Dentals (Fernando, Griffin, Groom, Harvey) beat Medicals.

Tug-of-War.—Dentals beat Medicals by two pulls to nil.

Sport

Association

COMPARED with the previous season, 1932-1933 has been a very successful year for Hospital football. Out of a total of 22 games, 16 were won, 5 lost and 1 drawn; goals for, 67; goals against, 50. Four matches for various reasons were scratched.

The team played very well as a whole, and even though they were not lucky enough to win the Inter-Hospital Cup they can console themselves that they gave the ultimate winners a very hard game. The annual Charity Match against the Borough Market resulted in a gain to the Hospital coffers of over £40. It is unfortunate that the Hospital people do not support this game a little more and make the attendance more even.

The second team also had a very successful season and, as usual, won the Hospital Junior Cup. It is so many years now since the Junior Cup left the Hospital that it is almost regarded as a fixture.

S. E. O.

Rifle Club

AT the Annual General Meeting of the Rifle Association, held on Friday, 24th March, with the President, Mr. W. H. Trethowan, in the Chair, the following officers were elected :—President—Mr. W. H. Trethowan; Vice-Presidents—Mr. W. H. Ogilvie, Mr. A. R. Thompson, Mr. E. G. Slesinger, Mr. E. B. Dowsett, Prof. M. S. Pembrey, Mr. E. R. Boland, Mr. K. Hooper, Dr. J. H. Ryffel; Captain—C. L. Stevens; Hon. Secretary and Treasurer—D. W. Harvey; Committee—R. A. Johnson, D. Farrant, L. N. Trethowan, R. F. Parfftt, A. Black, J. W. Hallam.

D. W. HARVEY,
Hon. Secretary.

Hospital Information, etc.

Pass List

CONJOINT BOARD.

March-April, 1933.

PRE-MEDICAL EXAMINATIONS.

Chemistry and Physics.

†R. H. Bhanji
A. J. Barrett
A. K. Borland
C. N. Brown
*P. Wilson
R. P. Hancock
R. W. Harvey
*E. F. B. Thompson
F. R. Wish
J. Burton
N. M. Cripps
A. M. Hutton
L. E. Milton
R. M. Corker
M. Frost
J. D. B. Perkins
P. D. Wharton
G. C. Blake
†N. Cleovoulou
*J. B. Hardie
H. J. Voss
S. G. Miron

C. R. Morgan
K. A. Stanyon Jacques
R. D. Thomas
F. M. Smith
†C. M. W. Debenham
†P. J. M. Kent
*W. B. J. Baskin
*G. H. Hall Jones
*G. C. Sprigings
†C. W. Turner
R. D. Ogston
A. Rand
†A. G. Corless
†R. Howgate
†E. F. Gleadow
*F. J. H. Edmonds
*D. R. Shannon
W. R. Russell

† Chemistry only. * Physics only.

Elementary Biology.

R. H. Bhanji
C. N. Brown
M. Frost
J. D. B. Perkins
P. D. Wharton
C. M. W. Debenham
W. R. Russell
R. J. Belcher
A. J. Clegg
G. James
C. N. Mills
G. P. L. Taylor
F. L. D. Young
A. K. Borland
R. M. Corker
R. P. Hancock
E. F. B. Thompson
A. G. C. Corless
G. N. Hall Jones
H. M. D. Archibald
L. B. Blomfield
F. B. Gamblen
H. D. Lamb
E. A. Moore
J. E. Tudor

PART I.

Anatomy and Physiology.

P. F. B. Gillett
D. J. Wigginton
*H. R. Loughran
†E. L. Moll
J. A. Griffiths
A. B. Baxter
*A. G. T. Brown
C. D. Farris
T. A. Hale Munro
T. A. Turnbull
W. J. Drummond
J. E. Russell
*E. Gill Carey
W. G. Zorab
J. M. Brown
*F. H. D. de Marigny
G. W. Hill

† Anatomy only. * Physiology only.

Pharmacy and Materia Medica.

A. G. T. Brown
L. U. Kamm
B. B. Bridges
L. J. Blay
R. W. D. Brownlie
W. M. Graves Morris
C. W. Shuttleworth
P. G. C. Jones
M. R. Kark
C. L. Stevens
J. F. Morris
A. L. W. Bell
B. J. Doran
W. S. Noble
J. A. Sidebottom
I. D. C. Williams
J. F. Lockwood
H. Kaplan
S. M. Whitteridge
T. S. Eddy

FINAL EXAMINATION.

Pathology.

R. L. Soper
T. E. Howell
S. H. Wass
B. L. E. Wong
J. L. Bates
J. S. Sutton
J. W. Mansie
D. S. Piper
C. F. Blumenthal
N. M. Jacoby
T. L. Barbour
W. T. Fowler
R. S. Vine
G. W. D. Reeves
R. F. Raw
P. A. Wilkinson
J. B. H. McArthur
L. Sobiya

Medicine.

*L. C. Oliver
*E. C. Zorab
*G. E. Walker
*W. J. Ogle
*M. J. Lindsey
*H. P. Russell
K. S. Ramaswami
J. Grocott
*K. S. Ayyar
*A. C. Jones
*H. T. Croudace
*R. J. Drummond
*C. V. Harries
*G. G. Exner
R. L. Soper
*H. M. Hodgkin
*J. B. Murdoch

Surgery.

*H. P. Russell
M. L. Walt
P. R. Wheatley
*S. B. Lange
G. Robin
*C. V. Harries
*K. S Ayyar
*C. J. Evans
C. E. M. de Gruchy

Midwifery.

J. Grocott
J. A. Brocklebank
E. A. Mayston
J. L. Freer
A. R. O. Denton
F. B. Champion
T. E. Howell
V. B. Reckitt
G. V. W. Doherty
J. W. Piper
I. K. Thomas
P. R. Wheatley
O. Lyth
P. E. Cresswell
A. S. Amsden
S. Mascarenhas
N. M. Jacoby
S. H. Wass
M. Tin
F. H. de Souza
G. L. B. Thurston
J. M. McArthur

* Now qualified.

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GUY'S HOSPITAL GAZETTE

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PASSIM

GUY'S may well be proud of the care that is taken for the patients in the wards. The services of the Hospital Shop and the Lending Library, both recent innovations, have done much to counteract that feeling of remoteness which is so depressing to the spirits of the inactive. One instrument above all that helps to keep those in hospital in tune with the world outside is the wireless. The efficiency of this instrument at Guy's could, we feel, be greatly improved.

The present set was installed many years ago as the result of a newspaper campaign. The man-in-the-street was no doubt duly impressed, and the patients, we hope, dutifully grateful. The campaign was successful, and no further interest was taken in wireless for the patients.

Unfortunately, the set is now out of date. It is not exclusive enough to receive one programme only, nor obtrusive enough to overpower the Hospital electrical plant. The result is an all too familiar babel, composed of a discordant polyphony of both Regional and National wave-lengths on an intermittent ground base from the X-Ray Department. What, then, is needed to remedy these faults? At the patients' end loud-speakers are obviously out of the question. The ear-phones at present in use are mostly adequate; provided that the internal ear is soothed by clear reception, the external ear can put up with the prolonged trauma to which it is opposed. More loud-speakers, plugs and wiring are, however, necessary, as most wards are only fitted on one side. At the receiving end an abnormally large set is not necessary. If one loud-speaker can, and does occasionally, provide enough noise for the whole College, a similar-sized set could surely supply the ear-phones for all the wards. What is needed is a set so constructed that it will pick up only one programme at a time and protected from interference from the Hospital electrical plant. We feel that the science of wireless telegraphy has so progressed that this should now be possible, and an enthusiast with a flair for the subject would be able to work out a very practicable scheme.

We are told that the necessary alterations could be made for a sum of £200 or less. This is a small sum when placed by the annual Hospital expenditure. Is it too much to hope that the Governors would consider the question, especially as this year the Hospital balance is, we are glad to note, on the right side of the ledger? The expense would be a final one and would prove a lasting benefit and joy to the patients.

IT was disappointing to see that the Derby Day collection this year amounted only to £136; disappointing to find that the splendid form shown by our collectors at the last Rugger Final was not maintained at London Bridge, and that this last appeal was only a third as effective as usual. Let all credit be given to the 40 heroic workers who bestirred themselves early and took advantage of the Appeal Secretary's offer of "worms to early birds." They did their work well. But where were the younger men, those in their first year particularly, who usually swell the number of collectors to 80 or 100? The result of this collection shows that we cannot do without those innocent appealing faces, whose very looks belie any taint of vivisection or brutal experiment, so

frightening to those whose first inclination is to bestow their money on Cats' Homes.

Have we not missed, this year, the experience of those who are just emerging from years of training in coaxing money out of their critical and often suspicious elders? Can it be that they were too busily engaged at their books? If so, they have missed a golden opportunity at the very start of their career. They must surely have heard that the best way of keeping out of the Dean's black books is to be seen by him rattling a collecting box in St. Thomas's Street, no matter how early or how noisily, on Derby morning. At any rate, they have left the Appeal Secretary with a heavy heart. It will be harder now to maintain the pride of last year and keep the Hospital solvent.

It becomes more and more important to keep Guy's in the public eye, and street collections, provided they are carried out in a fairly quiet, persuasive manner rather than in a boisterous babel of bullying, banging and bellowing, is one reliable way of getting what we need. The public hears too little about us, and it is surprising even how few Londoners know where Guy's actually is. No wonder, then, that it is such a rare joy to find the Hospital mentioned in the Wills and Bequests columns of the daily papers. We are too modest in our claims on the public, and, though it may not be desirable to emulate another hospital and expect public support in building a new Students' Quarters, let us not shun publicity as though it were a hideous cancer or bitter emetic.

Obituary

ROBERT GRIEVE HICKS, M.R.C.S., L.R.C.P.

ROBERT GRIEVE HICKS entered Guy's in 1884, completing the Conjoint Diploma in 1889, and immediately afterwards he started in practice with his father at Ramsgate, where he lived and worked, beloved by patients and friends, for the remainder of his life.

Hicks was fortunate in that as early as June, 1889, he was elected surgeon to the Ramsgate General Hospital, and to the interests of this institution and of its patients he devoted himself wholeheartedly during the 43 years in which he served on the active staff. Not only was Hicks valued as a member of the staff of the hospital, but as an active member of the executive committee and, later, as its President and Chairman he was one of those who, by their help and energy, raised the hospital from one of 20 beds to its present content of a hundred. In April, 1932, Hicks, on his retirement from the staff on account of ill-health, was presented with a cheque for 100 guineas and an album containing the signatures of the subscribers, as a mark of their affection and esteem and of their great regret at the termination of his many years of invaluable service to the institution.

This short account will by no means be regarded as adequate if it fails to express, however imperfectly, something of Hicks' early years at Guy's. For Hicks, or Robin as he was invariably called, was a very well-known student in the late 'eighties.' To this day I had always thought that Robin was his name; how he acquired it, or when, I do not know, but we felt it to be an apt pseudonym like others of that era, such as Trojan Marriott, "Scottie" (W. J.) and Rosie Bryant, among others, all of which names recall with pleasure the perhaps less responsible and certainly happy days of our studentship, of "scenes which rise before me as I write along with the faces and voices of my friends."

Although neither I nor, I imagine, others of his friends, saw much of Hicks after he left Guy's, yet he still is, and was, Robin to us, and we think of him with his cheerful smile and manner, with his slow and rather slouching gait, as one of those who, though not particularly distinguished academically, yet had acquired a sound and practical education upon which to build, and so to maintain unimpaired in their generation the good name of Guy's and of her sons, scattered, as they are, all over the world. Hicks was fond of sport, perhaps especially of cricket, and he was a prominent member of the cricket eleven in the years 1885-1886, when the Guy's teams won the Rugby, the Association and the Cricket cups.

We who knew him deplore his passing; we extend our sympathy to his family and to his friends, and we realise, as undoubtedly they must do, that Hicks played the game well and truly to the end.

J. F.

Appendicitis

A Clinical Lecture delivered at Guy's Hospital by W. H. Ogilvie, Esq., M.D., F.R.C.S.

GENTLEMEN,—Appendicitis is an every-day problem. Many of you have faced it, or will soon be called upon to face it as patients; most of you will find its management one of the most onerus responsibilities in your practice; and you must all feel bewildered by the wealth of literature on the subject, by the different methods of diagnosis that are put before you, and by the conflicting views that you have heard expressed on the subject of treatment. It is therefore advisable that one surgeon at any rate should tackle the subject of appendicitis every year; as I have shirked this duty hitherto, I have decided to shoulder it to-day.

The appendix is a hollow tube, closed at one end and communicating at the other with the large intestine at its commencement. It is covered by peritoneum, has complete coats of longitudinal and circular plain muscle, and is lined throughout by lymphoid tissue. It varies remarkably in length, diameter and position, the average length and diameter being 3 inches and $\frac{1}{4}$ inch, and the commonest position being one free in the peritoneal cavity pointing downwards and inwards. The statement that the appendix is a useless, vestigial and disappearing structure is stamped with the arrogance of most criticisms of Nature's handiwork. The microscope reveals it to be a functioning organ, and X-ray investigation demonstrates that the normal appendix is in constant motion and fills and empties with every meal. Submucous collections of lymphoid tissue are found throughout the alimentary canal, and are specially aggregated where there is an abrupt change in bacterial flora, round the pharynx and the pylorus, and in the ileocæcal region. The function of these aggregates is presumably to sample bacteria passing these regions, to fight the pathogenic ones, and, by undergoing a mild inflammatory reaction which they are able to localise, to call forth a specialised response of the general mechanism of immunity against that particular organism.

The appendix is part of the ileocæcal submucous lymphoid aggregation, differing only from the others in being enclosed in a blind and narrow tube. The consequence of the mechanical difference is that a moderate amount of swelling may block the tube, preventing the evacuation of further exudate into the intestinal lumen, and converting the infection from a surface one to one in a closed space. This blocking will occur more readily if the lumen is narrowed at any point, by the position of the appendix, by fixation due to developmental or acquired adhesions, by fibrosis due to previous inflammation, or by solid matter or foreign bodies in the lumen.

PATHOLOGY

We know so little of the ætiology of appendicitis that it would be idle to discuss what are no more than theories. We know that it is a new disease, which has only become common in the last 30 years, for the very careful post-mortem reports of older generations contain few records of appendicular inflammation; that it is only seen at all commonly in civilised countries, and that in these countries it is becoming yearly more common. From these facts we infer that some characteristic of modern diet, possibly the diminished amount of raw vegetables and indigestible residue, is at fault. Attacks of appendicitis are rare under five, and first attacks rare over 40. This age incidence is probably associated with the activity of the lymphoid tissues generally during this period. Males suffer more frequently than females, but no explanation of this selection can be advanced.

While infection may reach the appendix by various routes, that by the lumen is by far the commonest. Sometimes an attack of tonsillitis precedes that in the appendix, and the same organism, perhaps an uncommon one like the pneumococcus, is isolated from both organs. Usually we cannot trace the source, but we must remember that milk and ice cream and many of the common foodstuffs may contain pathogenic streptococci in considerable quantities. Judging by the tonsils and other lymphoid tissue, we may infer that transient and unnoticed infections of the appendix are very common. Some factor—of decreased resistance, unusual virulence of the invading organism, or local damage—transforms one such infection into clinically recognisable appendicitis.

The pathological changes may be described under two headings, those occurring in the appendix itself and those found in the neighbouring structures.

The changes in the appendix arise in, and are first limited to, the mucous membrane. This is swollen and reddish, with small petechial hæmorrhages, the surface is covered with exudate, and the lumen contains a serous or sero-purulent

exudate. This condition is one of catarrhal appendicitis. The appendix may appear normal from the outside, but more often it is slightly swollen and more rigid than usual, and may be pink. Such an attack may subside, particularly if the swelling is not sufficient to occlude the lumen, leaving an appendix once again normal; more often it leaves fibrosis in the wall, or adhesions to neighbouring structures.

If the infection progresses, it may affect the appendix in various ways, depending on several factors. The process may proceed to ulceration of the mucous membrane and spread through the muscular and serous coats leading to perforation at some point; local destruction and perforation are hastened if the factor of trauma is added by the pressure of a concretion. In place of a localised destruction of the wall, the whole or a large segment of the appendix may become gangrenous, either because of the toxins of a virulent organism or because the vessels in the mesentery have become thrombosed. Or the lumen may be obstructed by œdema or a concretion before any great destruction has taken place, so that the appendix distal to the point of obstruction becomes distended with pus—an empyema of the appendix.

The more usual changes found round an inflamed appendix are local peritonitis, localised abscess and diffuse peritonitis. Local peritonitis is seen in the early stages of an attack due to a virulent organism in the form of thin free pus round an appendix in which no gross destruction has taken place; here the bacteria have found their way through the coats of the appendix without any perforation. In the more common type, local peritonitis takes the form of the matting together of surrounding structures by plastic lymph; the omentum always takes part in this early protective peritoneal reaction, which is responsible for the palpable lump of the moderately severe and early case.

A localised abscess is formed when infection progresses, by perforation or extension, beyond the wall of an appendix which has been walled off by a plastic peritonitis. The walls of such a abscess will consist of cæcum, omentum, parietal peritoneum, and coils of small intestine; their thickness and security will vary with the duration of the attack.

Diffuse peritonitis may be seen in appendicitis as a primary condition when the infecting organism is one of extreme pathogenicity, usually a streptococcus, so that the general cavity is invaded before any protective barriers have been erected. Such cases are fortunately rare, and usually fatal. Much more often diffuse peritonitis is due to the bursting into the cavity of a localised collection of pus, either a localised abscess or an empyema of the appendix. It is therefore a state that seldom occurs early or without due warning.

DIAGNOSIS

Acute appendicitis is a disease whose clinical manifestation may vary to a great extent. Many writers have, quite rightly, analysed the features of atypical cases, and have described a whole multitude of accessory symptoms and signs which they have found of value in differentiating them. Such fare is, however, for more mature digestions than yours can possibly be at this stage of your experience, and I am sorry to see that so many of you wander from the "cut off the joint" of the standard text-books. You must be able to diagnose appendicitis. You should, for your own self-respect and education, attempt in addition to forecast the position and pathological condition of the appendix. But these attempts, while they will do you good, will impress upon you more than anything else the fallibility of human judgment. Wilkie has elaborated the differential diagnosis between inflammatory and obstructive appendicitis. In practice most of us find the distinction impossible, and with exactly the same history and physical signs we may find an appendix that is virtually normal in appearance and only shows evidence of inflammation when it is cut open, one distended with pus and ready to burst, or one gangrenous and undistended. I should therefore urge you to carry always in your minds the clinical picture of the ordinary attack in its simplest essentials, and by reflection upon the basis of the symptoms and signs which form this picture to realise how any one may be modified by special circumstances.

An attack of appendicitis does not come like a bolt from the blue. The patient usually feels out of sorts before it starts; the pain, when it comes, forces itself gradually on his consciousness. Pain is always the first symptom, before fever or vomiting. At first it is intermittent, colicky, vaguely localised and referred to the umbilicus or just above it. After a variable number of hours it settles down to the right iliac fossa, and becomes constant, described as a dull ache, and is localised so accurately that it is usually indicated with one finger. Vomiting occurs early, during the period of umbilical pain; it is seldom persistent, and only re-appears with peritonitis. The bowels are usually constipated. The tongue is furred. The temperature is raised, from 1° to 3° F., and the pulse is also from 20 to 30 beats above the normal. Upon examination the abdominal muscles over the right iliac fossa are found to be guarded or

even rigid, and a point of tenderness is found which usually corresponds fairly accurately to McBurney's point. Pain, first general then local, vomiting, constipation, temperature, pulse, guarding and tenderness are the standard features of a standard case, and upon them we should base our knowledge.

The early colicky pain arises in the wall of the appendix. It is caused by excessive contractions of the muscular coat which attempt to expel the contents into the cæcum, and, like all pain carried by visceral sensory nerves, it is vaguely localised and referred to a segmental area. It is therefore insisted by all writers that the pain of appendicitis does not start in the right iliac fossa. This rule will save us from many mistakes, but it has exceptions. When the appendix is fixed at any point to the abdominal wall, the earliest pathological changes occurring in it may stimulate somatic sensory nerves and give rise to localised pain; thus the first symptoms of an attack in a retrocæcal appendix, or in one previously infected, may be pain in the right iliac fossa.

The later fixed and localised pain is due to involvement of the parietal peritoneum in the inflammatory process arising in the appendix, and is carried by the somatic nerves. An appendix in the usual situation involves the peritoneum of the anterior abdominal wall in the right iliac fossa, and gives rise to the typical symptoms described above. If, however, it is in contact with the posterior parietal peritoneum, which is less richly supplied with sensory nerves, the pain is less. If it lies between coils of gut in the hypogastrium or pelvis and does not approach the abdominal wall at any point, there may be no localised pain at all, and the patient passes from colicky pain to painless toxæmia with few recognisable symptoms.

Vomiting occurs early and is a visceral reflex. It is absent in about 30 per cent. of cases, but there is nearly always nausea. Complete absence of either nausea or vomiting is distinctly against a diagnosis of appendicitis. Constipation is also due to a reflex inhibition of intestinal movement, and may be absent or replaced by diarrhœa.

The temperature in acute appendicitis is always raised in the early stages, but is never really high till an abscess has formed. A temperature above 102.6° F. should raise the suspicion of pneumonia or pyelitis. The pulse is seldom above 100 except in small children, or in cases with diffuse peritonitis or infected with a virulent organism. A low temperature with a pulse above 100 is of grave import.

Muscular guarding and rigidity is again a reflex phenomenon, and is due to irritation of the peritoneum covering the abdominal wall; it is therefore absent if the appendix, or at any rate the zone of inflammatory reaction, does not reach the parietes. In a typical case the muscles over the right iliac fossa are contracted and resistant, but we must remember that the area over which guarding is found will vary with the situation of the appendix.. After comparing the resistance of the iliac fossæ with the flat of the hands, I always make it a practice to press them deeply into the lateral flank muscles, and I have found that the earliest signs of resistance are very often encountered here. When the appendix is retrocæcal this lateral guarding is typical and constant, and in some cases the only change may be found further back still, in the costo-vertebral angle. A very low appendix will lead to spasm of the muscles just above Poupart's ligament, a high one to contraction of the upper half of the right rectus, one lying posteriorly or over the brim of the pelvis may betray its presence by a contraction of the psoas.

Tenderness on pressure is due to the inflamed appendix itself. The maximum tenderness is usually at McBurney's point. This constancy is surprising in view of the many different situations in which the appendix may be found, and a possible reason is that pressure applied at this spot is more directly transmitted to the underlying abdominal contents than at a higher or lower level, because the abdominal cavity is shallower at the brim of the pelvis than anywhere else; thus that part of the appendix or of the inflamed area surrounding it which lies at this level will receive the strongest pressure and therefore be most tender, even though it is not the most inflamed. But, wherever the inflamed appendix lies, if it is pressed upon pain is produced. If it lies in the pelvis, acute tenderness can usually be found at one spot on rectal examination. In other situations this tenderness may give rise to special signs. Thus pressure on the common femoral artery under Poupart's ligament, by increasing the force of the pulsation in the iliac arteries, will cause a throb of pain keeping time with the pulse when the appendix lies along the inner border of the psoas. An appendix lying in the anterior part of the pelvis may be betrayed by pain when the bladder is full, relieved by passing water. When tenderness cannot be elicited by the ordinary means, because the appendix is out of reach both from the anterior wall and the rectum, it can sometimes be demonstrated by firm pressure on the abdominal wall with the whole hand, suddenly released, the quick change in position of the abdominal viscera thus produced causing pain in an area which is inflamed and abnormally fixed.

Two other signs must be mentioned—the absence of peristaltic sounds and cutaneous hyperæsthesia. The first I consider extremely important, the second interesting but of little practical value. When the stethoscope is applied over a normal abdomen, peristaltic sounds can be heard at intervals of from 6 to 10 seconds. Intestinal movements are immediately inhibited in the neighbourhood of a focus of infection, the purpose of such inhibition being to facilitate, by complete immobility, the localisation of the infection by a peritoneal reaction. I have always found the area of the right iliac fossa completely silent in acute appendicitis, and on several occasions I have been able to make the diagnosis on the history and this sign alone. I consider it absolutely reliable. Hyperæsthesia, on the other hand, appears to mean very little. We find it in about one case in ten, but its presence is never decisive and seldom helpful. Typically, the hyperæsthesia is found over a triangle bounded by a horizontal through the anterior superior spine, Poupart's ligament, and the mid-line.

Having discussed at some length the usual clinical picture of acute appendicitis, and attempted to analyse its main features, I should like to mention more briefly some of the more common departures from this picture.

Appendicitis in children often runs a very rapid course. Six hours from the first onset of pain the appendix may be gangrenous. The diagnosis is usually easy, because at this age there are very few abdominal conditions that can give rise to similar symptoms and signs. On the other hand, it is very difficult to form an estimate of the condition of the appendix. A small child very quickly looks extremely ill. The rate of pulse, the degree of tenderness and the area of muscular rigidity may be quite out of proportion to the amount of pathological change that is present in the abdomen. Signs that in an adult would indicate a diffuse peritonitis may be found with a fairly mild catarrhal attack. Localisation of infection in a child is usually imperfect and insecure, and the strongly circumscribed abscess so often seen in adults is rarely encountered, and, if formed, is liable to burst after a few hours. Diffuse peritonitis is particularly fatal.

Appendicitis in a retrocæcal appendix is usually of a more mild type than that in the more common situation in the right iliac fossa. The early pain may be right-sided; the late fixed pain is deep seated, not very well localised and not typically severe. Muscular guarding may be slight, and is usually limited to the lateral and posterior abdominal muscles, so that it may not be found unless those areas are carefully tested. Constipation may be particularly stubborn. Because the early symptoms are so indefinite, patients with retrocæcal appendicitis are often seen for the first time when an abscess has already formed. These retrocæcal abscesses are usually well shut off, are not accompanied by the same amount of constitutional disturbances as abscesses in the right iliac fossa, and are much less likely that these to extend to the general peritoneum; on the other hand they may lead to infection of the sub-diaphragmatic space.

Appendicitis occurring in a pelvic appendix is characterised by its complete silence. The early stages depending on visceral pain and visceral reflexes are the same as in an ordinary attack, but the later stages, the fixed pain, muscular guarding and tenderness, which depend on involvement of the parietal peritoneum, are absent. If the appendix can be reached by rectal examination, or by deep pressure in the hypogastrium, it is tender; if it lies in contact with the bladder or rectum, there may be pain when these are distended. These symptoms and signs may, however, be missed even in a fairly careful routine examination of a patient whose history is not one of typical appendicitis; if he is fat and if the appendix is not at the bottom of the pelvis, but in front of the upper part of the sacrum, they may be entirely absent. Such cases pass gradually from the initial symptoms to a state indicating pelvic peritonitis. The temperature and pulse are both raised and the patient looks increasingly ill, with furred tongue, sunken cheeks and sallow colour. Diarrhœa and frequency of micturition denote irritation of rectum and bladder; later distension and vomiting, due to ileus in the coils of intestine lying in the pelvis, make their appearance. Abdominal examination in such a late case will usually disclose some muscular guarding above the pubis, or even the upper margin of an abscess. It is important to remember that a pelvic abscess, as it enlarges, is guided to the left by the mesentery of the pelvic colon, and presents in the left iliac fossa. A lump on the left side of the abdomen may, therefore, be the first indication that an obscure abdominal illness has been an attack of pelvic appendicitis. The rectum will be ballooned, but there is often surprisingly little tenderness. It is in the early diagnosis of these atypical and latent cases that the routine employment of abdominal auscultation has often proved of the greatest value.

DIFFERENTIAL DIAGNOSIS

I will not discuss the differential diagnosis of those many acute abdominal conditions which in any case demand operation, where the chief

importance of a correct opinion concerns the planning of the incision. Leakage from a duodenal ulcer, intestinal obstruction, and peritonitis from other causes may be mistaken for appendicitis, but the mistake is harmless. The differentiation of pneumococcal peritonitis is more important, because operation is probably harmful in the acute type of case; it is, however, so difficult to exclude appendicitis with certainty that operation is usually the lesser risk.

There are two conditions which may resemble appendicitis very closely, in which operation is definitely contraindicated. One of these is pneumonia, which may produce irritation of the intercostal nerves, especially in children, giving rise to pain referred to the abdomen and guarding of the abdominal muscles. I know that you always examine the chest in every case of suspected appendicitis, for this lesson has been dinned into you from the day you entered the wards, but even a careful examination may fail to discover any physical signs during the first few hours of a basal pneumonia. You should suspect pneumonia if the temperature is above 102.6°, if the respiratory rate is increased, if the alæ nasi are expanding and if the tongue is clean. Abdominal tenderness and guarding may be found in chest conditions, but the tenderness is never accurately localised as in appendicitis, while the guarding is diffuse, its area has no very definite boundaries, and is apt to vary from moment to moment, and it may disappear altogether when the patient's attention is distracted. A few moments spent in gentle palpation with both hands, while the child is kept interested by conversation, will usually serve to distinguish between the guarding which protects a tender spot in the abdomen and the spasm due to irritation of the lower thoracic nerves.

Pyelitis is usually right-sided, and is seen in girls and young women. Mild cases present symptoms that are chiefly urinary, and can be recognised with little difficulty, but acute cases, with fever, vomiting and pain on the right side of the abdomen, are often mistaken for appendicitis. The chief point in the differential diagnosis is the contrast between the severity of the constitutional disturbance in acute pyelitis and the insignificance of the physical signs. The patient feels very ill, but this varies from hour to hour. Vomiting is marked and continues while the symptoms last; in appendicitis it is rarely repeated after the initial stages. The temperature is high, 103° or 104°, and rigors are frequent; such a temperature in appendicitis would mean wide peritoneal involvement or, more probably, a large localied abscess. Yet this patient with a high temperature, rigors and frequent vomiting looks remarkably well and is a good colour; muscular guarding is slight or absent; tenderness is inconspicuous, high up, and is usually more marked when pressure is made on the kidney from behind. A careful inquiry into the urinary history and an examination of the urine will always settle the diagnosis.

TREATMENT

Concerning treatment, my views are simple and my advice direct. I believe that immediate operation is necessary in every case of acute appendicitis. One month ago I spoke in support of this view at a debate organised by the Postgraduate Fellowship; to-day I wish to say the same, because I believe most earnestly that safety lies in no other course.

I will admit at once that there are cases of appendicitis in which immediate operation is unwise. When a case that has been seen by a doctor with guarding, tenderness and a raised temperature and pulse, arrives at hospital looking well, with a clean tongue, a normal pulse and temperature, and the merest trace of tenderness, the attack has nearly subsided. When, in a later case, we find a well-localised lump in the right iliac fossa, but not guarding, very little tenderness, and a temperature and pulse that are only slightly raised, the lump consists chiefly of œdema and omentum and contains very little pus. These have been, but are no longer, cases of acute appendicitis. The powers of immunity have won. They are recovering, and operation should be postponed till all signs of an inflammatory reaction have disappeared.

Acute appendicitis is appendicitis with the signs of an active inflammatory process—tenderness, guarding and a raised temperature and pulse. In all such, whatever the day of the disease, and whether there is a lump or local or general peritonitis, operation is the only safe course, the only one we can adopt in the interests of our patients and of surgery in general.

When the disease is limited to the appendix, it is generally agreed that the mortality is under 1 per cent. Mutch found that no deaths occurred in the surgical wards at Guy's during the years 1906 to 1909 in patients operated upon within 24 hours of the onset of symptoms. Other hospitals show similar figures. In these early cases the principle of immediate operation has been accepted universally. Argument, whose repercussions I know have reached you, chiefly concern cases first seen from the third to the fifth day, with a localised abscess. At the beginning of this century, all these cases were watched till the abscess disappeared, pointed or burst into the bowel or peritoneum. The principle of immediate

operation was not a hasty experiment. It was introduced gradually, and in the face of much opposition, by surgeons who proved their contentions by their results. The mortality of appendicitis in hospitals fell gradually from about 40 per cent. in 1900 to about 4 per cent. at the present time. It would be ridiculous to claim that immediate operation is entirely responsible for this striking improvement, for better diagnosis and transport have played their part; but in the opinion of surgeons who have lived through this period it has been one of the chief factors.

The revival of this waiting policy, euphemistically termed "delayed treatment," may be ascribed to the advocacy of several leading surgeons at the close of their careers. Deliberation is a characteristic of age, a time when "second thoughts are best" and "the native hue of resolution is sicklied o'er with the pale cast of thought." But the support that the policy has received from younger men is based almost entirely on statistics.

Firstly, it has been pointed out that the deaths from appendicitis, as shown by the returns of the Registrar-General, were slightly more in 1925 than in 1913, 2,862 as against 2,528. From this it is inferred that immediate operation has increased rather than lowered the mortality. This argument entirely ignores the great increase in the incidence of the disease, but a moment's consideration of the district in which we live will show the fallacy.

The population of South-East London has been almost stationary for some time. Since the great majority of patients in this area are admitted to the hospitals for operation, it should be comparatively easy to estimate the incidence of acute appendicitis during any selected period, and by comparison to infer what is taking place in the country as a whole. In 1913 the majority of operations for appendicitis, not only in this district but in the outlying area served by the Southern Railway, were done at Guy's and other voluntary hospitals. Since the war the number of cases admitted to Guy's yearly remains roughly the same in spite of the complete disappearance of the case sent from a distance, but, in addition, King's College Hospital has moved south of the Thames, the Miller General has grown in size, the Woolwich War Memorial Hospital has been founded, and all the Council hospitals have become active surgical centres. All these hospitals are now admitting cases of appendicitis in considerable numbers. In attempting to get at exact figures I have met with the difficulty that hinders most investigators—the inability to get any reply from more than a certain proportion of inquiries. The authorities at several of the hospitals, for whose courtesy I am extremely grateful, have, however, provided me with sufficient figures to allow a rough estimate to be made. Three out of seven Council hospitals have replied, and four out of nine voluntary hospitals have given complete figures; these hospitals represent 53.5 per cent. of the Council hospital beds in the area, excluding special hospitals, 54.5 per cent. of the voluntary hospital beds. If we assume that the remaining hospitals have admitted cases of appendicitis in a similar proportion to that of their beds we get the following figures :—

Cases of Appendicitis Treated in South-East London

	1913	1927	1930
Guy's only	169	242	161
All Hospitals :—			
Voluntary	287	698	523
Council	26	440	522
Total	313	1,138	1,045
Increase over 1913	—	260%	230%

Deaths from Appendicitis in Returns of Registrar-General

	1913	1927	1930
	2,528	2,760	2,941
Increase over 1913	—	8%	15%

Even if the figures for the hospitals which have not replied is too high, it is clear that the incidence of appendicitis in the country has increased about threefold, and that the mortality chiefly owing to the policy of immediate operation has fallen to roughly one-third of its pre-war level. Further, these figures suggest that between 1927 and 1930, the years during which the unfortunate policy of "sitting" on cases of appendicitis had begun to attract some surgeons, the number of operations has decreased slightly while the mortality has risen appreciably.

Secondly, statistics have been advanced, notably by Love and Bailey, to show that the mortality in a group of cases treated on delayed lines is less than that in another group treated by immediate operation. Love publishes a table of the collected figures from four large hospitals, showing that the mortality with "expectant" treatment is 3.8 per cent. and with immediate operation 6.7 per cent. These figures are impressive till we look into them. We then find, taking those from the London Hospital, that 47 deaths out of 98 in the group treated by immediate operation were in cases admitted with general peritonitis, cases in which no other

method of treatment can be discussed. If we omit these patients with general peritonitis we find that the mortality in the series treated by immediate operation is 3.5 per cent., the same as that in cases treated on delayed lines. Were the groups strictly comparable, we might conclude that one method is as good as the other. But anybody who has indexed hospital reports for several years, as I have done, will tell you that all the doubtful cases, the mild cases, all those obviously subsiding, automatically fall into the second group, so that for comparable series delayed treatment probably carries a higher death rate; while in cases which fail to improve with delay the mortality is 6.4 per cent. Bailey's figures are smaller, but no more convincing. He gives a mortality of 1.65 per cent. in cases treated by immediate operation and 1.4 per cent. in cases treated expectantly; but again, if deaths following peritonitis are excluded, the mortality in the immediate series becomes 0.8 per cent., as against 1.4 per cent. in the delayed series.

A third line of argument adopted by the advocates of expectancy is to draw a picture of the many complications that follow immediate operation in cases with an abscess—fæcal fistulæ, pylephlebitis, residual abscesses, general peritonitis. These things do not happen, or at any rate they do not happen at Guy's and St. Bartholomew's, two hospitals where immediate operation has always been practised; they are the result, not of immediate, but of faulty operation.

I have always practised immediate operation, except in cases of the quiescent type to which I referred, which form about 2 per cent. of the whole. During 12 years I have only lost one patient with an abscess, who died on the eighth day from pulmonary embolism.

The principles of surgery, in so far as they concern abscesses, have been established for generations, and may be expressed in the simple advice, "Where there is pus, let it out, but do not damage the natural barriers by which it is shut off from the rest of the body." An abscess in the largest natural cavity only differs from others in its potential danger. It may become absorbed, but if it increases in size it may burst into the rectum, the small intestine or the bladder. It may also burst into the general peritoneal cavity, and such a catastrophe is fatal in a very high proportion of cases. When we open such an abscess we should endeavour to decide if part of its wall is formed by the abdominal parietes. If this is the case a direct approach, which evacuates the pus without opening the general peritoneal cavity, is the safest. If, however, the abscess is shut off from the abdominal wall by omentum or coils of gut, we should adopt an indirect approach, pack rolls of gauze round the site of infection before attacking it, and thus avoid any soiling of the peritoneum when the pus is let out. Many surgeons advise that the appendix should not be removed in an operation for a localised abscess. I have removed the appendix in most cases—but this is a personal detail. The principle I would insist upon is that all abscesses should be evacuated when first seen, if there is any reason to think that the inflammatory process is still active. A drain should always be left in the cavity at the end of the operation.

The policy of watching such an abscess is one of continued anxiety. At the time of first seeing the patient we can, to some extent, assess the risk. If we wait, either he is improving or he is getting worse, and the gamble continues—on the one hand, the hope that the increasing danger will reach its zenith and subside, on the other the need to confess that the best chance has been allowed to slip by, and we must make the best of a poor bargain.

In surgery, as in every art or science, the broad outlines and the practical details are sometimes in conflict; and the man who is concerned with the wider philosophies tends to simplify all procedure into certain rules which must be applied to every case, whereas the pedestrian worker thinks first of the case. There may be great surgeons who have the gift of prescience which enables them to recognise the cases of acute appendicitis that can be watched safely. But if they watch their cases in hospital, practitioners will soon adopt expectant treatment in the home, and the public will later do the same without the doctor. By such easy stages we may soon revert to the 40 per cent. death rate of 1900. The surgery of appendicitis is not great surgery; it is the everyday service of the journeyman surgeon to the everyday patient. For such I have no doubt that immediate operation is the safe course and the right course.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Correspondence

Fees in General Practice

To the Editor of the GAZETTE

SIR,—I was delighted to read the criticisms directed at the report of my lecture on this subject. Criticism implies interest and vindicates my original statement that the subject of fees never fails to excite enthusiasm in our profession.

I grieve to note, however, that your correspondents have failed in the essential duty of critics, namely, to read carefully the article which they are about to criticise. I painted no radiant picture of fees, neither did I give any justification for the assumption that 10*s.* 6*d.* was an *average* visiting fee, or that 10 guineas was an *average* "midder" fee. What I did say was this: "Now when you start in practice fix a *standard* fee for visits and for examinations at your house. The level will be determined by the type of practice and by advice from your partners. Let us suppose that 10*s.* 6*d.* is your visiting fee." Why do you think I inserted the last two sentences if not for the purpose of indicating that I was merely setting a figure (incidentally by no means unattainable, as I know) so that I might point out the relative value of other medical services, *e.g.*, blood counts, midwifery, etc.? My critics should remember that I was addressing a body of intelligent students.

"G. P." agrees with me that midwifery does not pay in general practice. "A Guy's G.P." does not! Of course, it all depends upon how the job is done. If you examine the woman three times before parturition and examine the urine six times, and attend the labour conscientiously, and pay daily visits for four days and alternate daily visits for another week afterwards, you will find that a fee of five guineas is scarcely adequate for a practitioner even if he is not "very select."

As I read further through the criticisms I am tempted to believe that the writers have used my humble effort merely as an excuse for airing personal grievances. How otherwise would it be possible for such inaccurate statements to be included as Q. S. Gabb's implication that I advised calling a normal visiting rate a guinea and charging nearly everyone less? Again, in what sentence did I give "A Guy's G.P." the right to assume that a "consultoid" was "a general practitioner who has a room in the Harley Street district"? I defined the term as "one whose only claim to consultant standing is sufficient funds to have a consulting-room in the Harley Street district, and whose aim is to attract and keep any patient who gets into his clutches." Is it conceivable that he extracted six words from this definition in order that, with the characteristic *elan* of anonymity, he might accuse me of having arisen from consultoid slime? Natural modesty forbids me to do more than refer him once again to the definition.

The only other criticisms to answer are those of omissions, but I have dealt with such subjects as the distinction between practitioner and consultant, the methods of collecting fees and so on in my lectures, and subsequently in my book on General Practice. Furthermore, only the most gifted lecturer dare talk for longer than 55 minutes.

In conclusion, let me stress one point—a doctor makes his own market to a large extent. If at the end of five years he finds himself miserably underpaid and generally disgruntled, the fault lies with him and not with the populace.

Yours, etc.,
A. H. DOUTHWAITE.

London, W.1.

To the Editor of the GAZETTE

SIR,—I was glad to read in the current number of the *Guy's Gazette* that Dr. Douthwaite's somewhat *ex cathedra* statements about fees in general practice were not allowed to pass without comment.

Dr. Douthwaite is certainly entitled to speak about G.P., but only about a certain type of G.P. His ideas on the subject are often far too Utopian to be representative of what actually happens in general practices up and down the country. Had he seen G.P., say, from the angle from which Sir James MacKenzie saw it in his G.P. days at Burnley he would, perhaps, have known something of the difficulty of fee-collecting at the rate of 6*d.* per fortnight, as the writer has had to do.

Owing to the economic crisis one has found oneself, subconsciously almost, reducing one's fees, and a man starting in practice now had better rid himself immediately of any high-falutin' ideas about fees on Dr. Douthwaite's scale. Those may be obtainable in the Sunny South, but try them on the hard-bitten Northerner and, to use an Americanism, he will soon tell you "where you get off."

Yours, etc.,
LLEWELLYN DAVIES.

Amisfield House,
Hipperholme,
Halifax, Yorks.

To the Editor of the GAZETTE

SIR,—The concluding sentence in Dr. Douthwaite's lecture prompts me to send you an account of an experience I had some years ago. A neighbouring G.P. was talking over general medical matters with me when he remarked, "Do you 'use" (*sic*) Mr. Blank for your surgical cases?" On my replying that I did not he assured me that if I did I should always find a considerable percentage of the fee he charged for operation would be handed over to me. I think my face must have betrayed my feelings: I murmured "Dichotomy," and have never spoken to that G.P. again, nor have I had any occasion to "use" the surgeon.

Dr. Douthwaite has once more come to the rescue of the young G.P. The question of fees is a most difficult one, even after 25 years' experience, and most of us could tell many stories of the ways we have been "bilked."

It has always seemed to me that what is needed in medical schools is definite instruction on all matters connected with general practice. After all, I presume over 90 per cent. of medical students become G.P.'s, and yet, during the whole of their training, they only come in contact with consultants. How fortunate in this respect were our older brethren, who had the inestimable advantage of serving an apprenticeship to a G.P. Luckily for us Guy's men, Guy's does not breed the "consultoid." We need not even bother about them, many though they be. No one so quickly becomes known and shunned amongst G.P.'s as the "consultoid," who automatically goes on the unwritten black list, which also contains the names of members of vicious circles who circulate a patient, *e.g.*, physician to surgeon, surgeon to radiologist, radiologist to dental surgeon, *cui bono*?

What shall be said of the consultant who embraces most of the specialties in his own person? To give an example. A patient came to me some years ago because she was unable to continue to pay the consultant's fees. He had examined her (three guineas), X-rayed her (ten guineas), done a blood count (five guineas), prepared a vaccine (ten guineas), and was giving her weekly injections (three guineas).

With apologies for the length of this letter.

Yours, etc.,
P. SEYMOUR PRICE.

A Few Notes on the Evolution of Dental Surgery

A Paper read before the Dental Society, Guy's Hospital, by D. Robertson-Ritchie, Esq.

MR. CHAIRMAN and GENTLEMEN,—From the diary of the Reverend John Ward, Vicar of Stratford-on-Avon, I take the following quotation:—

> "There are several sorts of Physitians, first, those that canne talk but doe nothing; secondly, those that can doe but not talk; thirdly, some that can both doe and talk; and fourthly, those that can neither doe nor talk, but these get most money."

Now that was written about 1650, but I think all of you can divide dental surgeons of your own acquaintance into those classes.

This evening I want to tell you something of the pioneers of "Dental Surgery."

The earliest medical book known is one written in the year 3100 B.C. by Emperor Chennong of China on Materia Medica, and after that the Mongol Emperor Hoangti wrote a book called "Soo-Wan" on Medicine. You will be pleased to hear that these writers in their instructions as to general hygiene laid stress on the cleansing of the mouth.

The next book mentioning oral health is the Ay'ur Veda Holy Book of the Hindus, which was written between 1800-1400 B.C., thus preceding the writing of our Bible by at least 80 years—the earliest part of the Bible having been written about 1320 B.C. This book is interesting in that it shows diagrams which must have been made from actual dissections, thus showing that medicine was encouraged by the Hindu religion. Dissection is forbidden by the Mohammedan religion, hence the decay of medical science in the Middle Ages.

In the Song of Solomon 4, ii, and 6, vi, we find that the Jews regarded sound teeth as a necessary concomitant of perfect beauty. In those days to ensure that people did clean their teeth the necessity for so doing was embodied in their religious ceremonies.

The next phase was that of the Etruscan dentists, and I will now show you some specimens of their denture work. (Farrar,[1] pp. 31-33.)

In 1886 a vase was discovered in the Crimean Peninsula which was a relic of a nomadic people called the Scythians, who lived in the district from 600-300 B.C. It was from this vase that the following scene was taken (Farr,[2] p. 38), and I believe this to be the earliest pictorial representation of a dental operation. You will recognise

the royal patient as King Pairisades, son of Satyrus, who reigned 310 B.C. In Egypt, at the same time, we have evidence that ivory and wooden teeth were used as dentures.

You will often hear people decrying our modern civilisation, saying that the ancient Egyptians were equally as inventive as ourselves, and quoting as example that they even had gold fillings in their teeth. Such is not the case; the so-called fillings on close investigation are found to be really lengths of gold strip and gold wire used for fixing artificial teeth to natural ones.

And now we arrive at the Roman and Christian era and at the first available mention of filling teeth by Celeus, an author of the time.

He advocates the filling of teeth with lead (which he calls "plumbage"), not, be it noted, for the preservation of teeth, but so that broken-down crowns should not snap off so easily in extraction.

One writer on the subject suggests the idea of conservation of teeth by filling may have been suggested by the retaining of such a "plumbaged" tooth after an unsuccessful extraction.

Lindsay, however, is entirely opposed to this view. She is convinced that fillings were devised as a means for prevention of the loss of a diseased tooth.

About 100 A.D. we read that Marcellus recommends that, instead of removing carious teeth they should be "cauterised with boiling oil or caustic substances" after having "scooped out the decayed part with a common scalpel," and then "stopping them with gum or similar material." Notice quite a close parallel between this and our method of to-day, 1,800 years later.

About 1120, Abulcasis writes that "teeth may be replaced by other human teeth or by artificial ones made of the bones of an ox."

In 1541, one Egenotff published a little book called "Medicine for the teeth to keep them sound."

Now, gentlemen, although I haven't had the pleasure of seeing an actual copy of this book I am very enthusiastic about it; it is absolutely revolutionary in three ways. First, you will notice the first mention of preventive dentistry, "To keep the teeth sound." Second, there is in it the earliest available account of the correction of irregular placing of teeth. Third, among the substances mentioned to be used as fillings for teeth is gold foil. With your permission I will read an extract from the book:—

"Corrosio is a disease of the teeth when they get holes and hollows, happening mostly to the molar teeth, especially if they do not get cleaned after eating; for the victuals adhere, decay, product bad, acrid fluids, that eat and etch into the teeth, and keep on doing so until the teeth are entirely destroyed and drop off . . . one piece after another.

"This condition is cured in three ways:—

"First, by purging.

"Secondly, by destroying the matter that eats them away (this is done by holding in the mouth vinegar in which capers' roots with ginger is boiled).

"Thirdly, by getting rid of the hollow, which may be done in two ways. The first is to scratch and clean with a fine chisel, knife or file the hollow and parts attacked and fill with gold leaves. The second is done by filling the teeth after cleaning with gall nut and wild gallows wood.

"Some who have a dread to have their teeth extracted, burn the bad tooth in this manner: They take a fine suitable iron, make it hot, put it into an iron tube which they do not warm, but let be cold; the hot iron protrudes a little below, and with this they burn the tooth. But if the tooth is hollow they put the glowing iron into the hollow of the tooth. This burning is very good and not dangerous, for it silences the pains and makes the tooth fall out by degrees in small pieces without pains. Some take, instead of iron, a nut kernel or a little olibanum, make it hot, and put it in the hollow of the tooth. Or, take the fat of a green frog and smear it on the tooth; that will make the tooth to break in pieces and fall out without aches."

And here is the first available mention of the correction of irregularities:—

"It often happens that to children more than seven years of age, when the teeth begin to drop out, other teeth grow by the side of those that are about to fall out; therefore we should loosen the tooth about to fall out until it can be taken out and then push the new one every day toward the place where the first one was, until it sits there and fits in among the others; for if you neglect to attend to this, the old tooth will remain, become black, and the young one will be impeded from growing straight."

By the way, while I am talking about the 16th century you may remember that it was during the time that wigs began to be worn in the Courts of Europe. It is suggested by Howard H. Haggard that wigs were worn to hide the baldness caused by that well-known disease, syphilis. Probably also plaster was applied to the face to hide facial blemishes, hence the name "court plaster."

In this century also lived Ambroise Paré, who was the man who laid the foundations of modern surgery. He was not popular with the surgeons of his time because he wrote in French instead of

Latin. This was the practice of all scientific writers of the period, and was to keep science from the common people.

In those days it was the custom to check hæmorrhage by cauterisation with molten oil or boiling pitch, which, though it sterilised the wound, often caused the patient's death from shock; Paré introduced the method of ligaturing vessels.

During his life he had two narrow escapes from death. First, he is said to be the only Huguenot who escaped the massacre of St. Bartholomew's Day. Secondly, he nearly lost his life by being too clever. He was captured by the Spaniards while serving with the French army; the Spaniards pledged that they would not kill prisoners of war, but only ransom them. He, thinking to save ransom, disguised himself as a common soldier, and was nearly executed because the Spaniards thought that a common soldier's ransom would be too small to be worth the trouble of collecting it.

It is in the work of Ambroise Paré that we find the first mention of the transplanting of teeth, which is the placing of a healthy tooth from another patient in the socket of a diseased tooth which has just been extracted. The source of the healthy tooth was usually the mouth of a child of needy parents; the tooth was extracted, the roots forced into the socket of the extracted tooth, and the whole tied in place with gold wire.

The operation was costly, "for," as Lilian Lindsay says, "not only had the operator to be remunerated, but the unfortunate donor had to be compensated for the sacrifice of a good front tooth." I expect many of you have seen this famous cartoon by Rowlandson (Hagg, p. 316).

At this period there were three kinds of person to whom one could apply for dental treatment: the barber-surgeon, the itinerant tooth-drawer, and, strangest of all, the public executioner.

Supposing you were alive then and had tooth-ache, you would probably avoid the executioner as liable to be heavy-handed, and, if you were sensible, the quack, as you were likely to find his services expensive.

Feeling rather discouraged, you therefore set off to the nearest barber-surgeon and you sit on the floor, and he sits on a chair behind you with your head between his knees and he extracts the tooth with the old type of forceps.

At that time they had no chemico-parasitic theory for the causation of dental caries. The theory in vogue at that time was that the tooth was eaten away from inside by a worm, as a worm eats away an apple; quacks preyed upon this belief and capitalised it. One old woman, for instance, used artificially to hatch silkworms' eggs; when a patient came with a badly carious tooth she would have one of these palmed and suddenly produced it, apparently from the tooth. Such is the power of suggestion that she probably effected quite a large number of cures.

It is also interesting to note that Leeuwenhock, who discovered the modern compound microscope, used as a specimen one of his own teeth and described Schreger's lines in it. He also noticed the presence of leptothrix in tartar. It was not until one of our own staff, Mr. Bulleid, worked on it that anyone considered leptothrix to be a causative agent of tartar formation.

Now let us imagine a visit to a dentist of the same period—Pierre Fauchard, a Frenchman. The first patient is Mlle. Tribuot, daughter of an organ builder to Louis XV; she has a very badly decayed tooth in the upper jaw. Instead of extraction he suggests his new operation. She agrees, and he begins; he extracts the tooth and then re-inserts it and ties it in with thread and fills the cavity with lead. That tooth won't hurt again. But we know that there will shortly be an abscess at its apex and that it will shortly be a septic focus, and that the poor young lady will probably suffer from rheumatism and arthritis.

Towards the end of the 18th century the theory of extraction was that every tooth should be extracted perpendicularly, usually by the pelican or key; Fox, in 1806, disagreed with this.

If Fauchard wants to prepare a cavity he has no dental drill to use; he has to use a file. George Washington's dentist, John Greenwood, is said to have converted a spinning-wheel to use as an engine, and individual dentists made little hand-worked drills for their own use. The first drill sold was a pneumatic one, the power being supplied by a foot bellows. A clockwork one also had a vogue.

In 1782 John Hunter persuaded William Rae to give the first special lectures in dental surgery in a house in Leicester Square; unfortunately, Rae was killed by a fall from a horse. However, very full notes had been taken by one of his more enthusiastic students, Joseph Fox, and when the latter was appointed first dental surgeon to Guy's Hospital in 1799 he began the first series of dental surgery lectures in the spring of that year.

It will probably be news to you that most of you pass every day a board with Fox's name on it. I refer to the board recording the names of Guy's dental surgeons, of whom the first was this same Joseph Fox, which is placed at the top of the main staircase in the Dental School.

Fox wrote a book, "The Natural History of the Teeth," in 1803 in which he advocates a fusible metal of bismuth, lead and tin as a filling

material; this softened at the temperature of boiling water and could thus be inserted into the cavity.

. . . . .

The rest of the paper is occupied by a few of the more important facts of dental politics with which I feel every member and student of this profession should be familiar.

And now we reach the first example of attempting to educate the public dentally. By 1839 there were still no schools of dentistry, and to enter the profession one had to have been apprenticed to a practising dentist. The status of the profession had, however, been raised by the formation of dental societies. One such published in New York City a paper called "The American Journal of Dental Science," and in this we find a poem, "Dentologia, or a Poem on the Diseases of the Teeth." The author showed in it the use of teeth to be not only to assimilate food, but also to aid in articulation. The only reasons he gave for the care of the teeth were, first, to preserve them and, second, to prevent pain; no mention is made on the bearing on health, for the simple reason that he did not know it.

Here is an extract from "Dentologia," in which the author describes the beauty of a lady named "Urilla, Nature's favored child."

"And lo, the heavenly spell for ever broke;
The fancied angel vanished into air,
And left unfortunate Urilla there;
For when her parted lips disclosed to view
Those ruined arches, veiled in ebon hue,
Where love had sought to feast the ravished sight
On orient gems reflecting snowy light,
Hope, disappointed, silently retired;
Disgust, triumphant, came and love expired."

Godson says that for a profession to become firmly established it must have a threefold foundation:—

1. A school—for instruction of the future graduate.

2. A scientific society—for the presentation and discussion of knowledge new and old, and for fraternal intercourse.

3. A journal to disseminate knowledge, to stimulate a wider education and a more general improvement by reaching a wider public.

At the beginning of the 19th century the profession was in the hands of the uneducated men for the most part. As Mr. Lewin Payne says: "Charlatanism, the offspring of ignorance and presumption, was rampant."

There were a few men worthy of respect, some medically qualified and some unqualified; the rest were only tradesmen and were despised. In the same way, but most surprisingly, were those medical practitioners despised who practised midwifery at this time.

An anecdote about Sir Astley Cooper may not be out of place here:—

During the war of 1812 an American privateersman, Josiah Flagg, was captured by the English and released on parole in London. Apparently he was something of an "operator for the teeth," for he was allowed to come here to Guy's to watch Sir Astley Cooper. The latter, during the course of one morning, found a tooth which he could not move, so he nodded to Flagg and said, "Perhaps our American friend, who is a skilled dentist, can assist us in this dilemma."

Flagg rose and bowed and, taking a jeweller's graving tool (which was apparently his favourite instrument for use in exodontics), extracted the tooth so neatly and so rapidly that it flew half-way across the room.

Sir Astley, astounded, said: "Gentlemen, that was a marvellous feat, a most marvellous feat."

In 1841, George Waite, a member of the Royal College of Surgeons, prepared "An Appeal to Parliament, the Medical Profession and the Public on the present state of Dental Surgery."

He suggested that the College of Surgeons should nominate a Board from among its members who practised dentistry, which should have the power to grant diplomas to those dentists who passed an examination.

In 1842, James Robinson tried unsuccessfully to form a dental society; he it was who later played a leading part in the formation of a College of Dentists. He also founded the first European journal entirely devoted to dentistry, *The Quarterly Journal of Dental Science*.

In the following year a Bill relating to the Medical Profession was before Parliament, so Robert Nasmyth, John Tomes and Edwin Saunders and others met together under the chairmanship of Arnold Rogers. They decided to ask Anthony White, the chairman of the Royal College of Surgeons, if any mention of the Dental Profession were made in the Bill, and, if not, to draft a clause to be added. White was not very encouraging, describing those members who practised dentistry as seceders, and Thomas Bell, the second Dental Surgeon of Guy's, a powerful member of the College, was strongly of the opinion that all dental practitioners should be medically qualified.

Nevertheless, despite the efforts of these gentlemen and others, it was not until 1855 that any success attended their agitations. On August 25th, 1855, was published in the *Lancet* a letter describing the muddle in which dentistry was in at that time

and appealing for the formation of an independent college of dental surgery. The writer was Samuel Lee Rymer, a keen young dentist of Croydon; after some propaganda had been spread he called a meeting at the "London Tavern," Bishopsgate Street, on 22nd September, 1855. This was the first occasion on which the profession as a whole had been invited to attend a meeting, and about 200 dentists attended.

The meeting resolved to call for the formation of a dental society and the establishment of some system of professional education and examination.

Meanwhile those who, in 1843, had sent a memorial to the Royal College of Surgeons were convened again in November, 1855, and sent another memorial to the College emphasising that a special qualification to dentistry was necessary. This was signed by 18 prominent members of the profession, including John Tomes and Robert Nasmyth. While the memorial was being prepared the signatories met at the house of Samuel Cartwright, F.R.S., having apparently become impatient (not strange considering that they had already waited 12 years for a reply from the Royal College), and constituted themselves the "Odontological Society."

This meeting took place on November 10th at the "Freemasons' Tavern," Great Queen Street. The following evening the other members of the profession met under James Robinson and Lee Rymer and discovered somewhat to their annoyance of the formation of the Odontological Society the previous evening.

In the course of his remarks, Rymer showed that he was rather hurt by the formation of the other society without his knowledge (and I think he had some justification). In passing, it is interesting to note that he estimated the number of dentists in the country to be 900.

On January 5th, 1857, was held the first meeting of the Odontological Society, and Samuel Cartwright gave his presidential address. There was an attendance of less than 50.

On the other hand, more than 200 were said to be present when Lee Rymer's Body met the preceding month under Mr. Macknezie, and they constituted themselves the College of Dentists of England. The chairman (Mr. Mackenzie) made a flowery speech about lifting the name of the profession out of the quagmire by putting shoulder to shoulder and keeping a look-out for breakers ahead lest the barque get upon the rocks. (One of the elected vice-presidents was a Norman King; I do not know if he was a relation of the retiring Registrar of the Dental Board.) The following proposal was made: "That any person using professional advertisement or exhibiting specimen cases shall not be a member of this College." Unfortunately for the dignity of the profession, this proposal was rejected by a large majority.

The first meeting of the College was held in Hanover Square Rooms, February 14th, 1857.

In February, 1857, was sent a fourth petition to the Royal College of Surgeons. The Secretary replied that the Council of the College had no power to grant a dental diploma under its then charter of incorporation, and that it would seem better to petition Parliament direct. In the following year was opened the first dental school in London, in Soho Square—the Dental Hospital and the London School of Dentistry.

In 1874 the premises were found too small and the School was moved to 40, Leicester Square, on the site of which you may now see Non-Stop Variety with Yvonne Vallée at the Leicester Square Theatre.

In 1899 the School, now the Royal Dental Hospital, was moved to its present site.

To return to the Royal College of Surgeons. On September 8th, 1859, an amended charter was granted containing the following clause:—

"It shall, notwithstanding anything herein contained, be lawful for Her Majesty by Charter to grant to the Royal College of Surgeons of England power to institute and hold examinations for the purpose of testing the fitness of persons to practise as Dentists."

In other words, it required a special Act of Parliament to allow you, gentlemen, to make your periodical visits to Queen Square. A member of the first Board of Examiners was Thomas Bell,

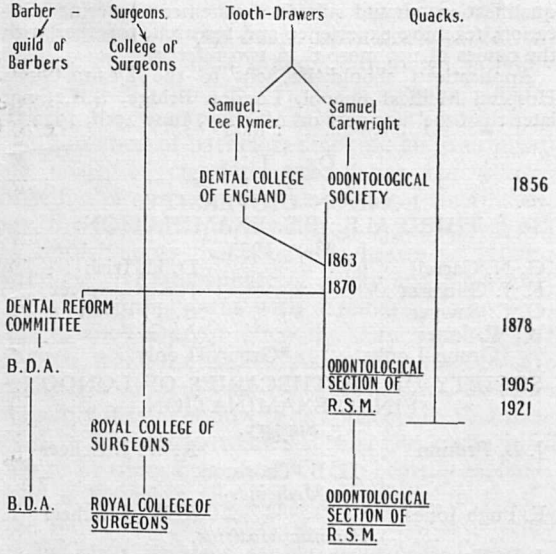

Diagram illustrating the Evolution of the Controlling Bodies of the Dental Profession.

the second surgeon to hold the position of Dental Surgeon to Guy's Hospital.

In 1858 an unsuccessful attempt was made to amalgamate the two societies and the College of Dentists lost those of its members in favour of amalgamation.

In 1861 the College of Dentists founded the National Dental Hospital in Great Portland Street, now the Dental Hospital of the University College, London. In 1863 the College disbanded, and most of its members joined the Society. However, the profession still had no Register, so the Dental Reform Committee was established in 1870. This led to the "Dentists' Act" of 1878, prohibiting the use of the title "Dentist" to anyone not on the Register.

This consummated the chief aim of the Dental Reform Committee, and in 1885 it was incorporated as the British Dental Association. In 1905 the Odontological Society was asked to take part in the movement for the unification of the various medical societies of London; this movement crystallised into the formation of the Royal Society of Medicine and the Odontological Society became the Odontological Section.

That brings us to the beginning of the 20th century; the rest you all know.

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6. Lindsay, Lilian.—Thos. Berdmore, *B.D.J.*, 1928.
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Hospital Information, etc.

Guy's Hospital Medical School

Applications are invited for the post of Lecturer on Physiological Chemistry. The appointment will be for two years in the first instance, with eligibility for re-appointment. Initial salary, £450 per annum. The Lecturer will be a member of the Staff of the Department of Physiology, and will carry out his duties under the direction of the Head of the Department. He may also be required to assist either in the Department of Pharmacology or in the Department of Pathological Chemistry.

Candidates, who must hold a registrable medical qualification, should submit a statement covering education, teaching experience and research, together with the names of not more than two referees.

Applications should be sent to the Dean, Guy's Hospital Medical School, London Bridge, S.E.1, not later than the first post on Monday, June 19th, 1933.

Pass List

LONDON UNIVERSITY.
THIRD M.B., B.S. EXAMINATION.
May, 1933.

G. N. Carrell	D. H. Irish
K. J. Gilchrist	J. R. C. Spicer
†G. C. Sawyer	*R. T. Elven
*W. W. Jones	*A. G. Potts

†Group I only. *Group II only.

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.

Surgery.

J. B. Frumin — *R. W. J. Scheel
H. B. Thornton

Medicine.

E. Pugh Jones — *R. W J. Scheel

Forensic Medicine.

J. P. Fitzgerald — *R. W. J. Scheel

Midwifery.

G. A. Bell — *R. W. J. Scheel
J. P. Fitzgerald — G. Wilson

*Now holds Diploma.

Papers by Guy's Men

R. P. Rowlands. Cancer of stomach. *B.M.J.*, 1933, i, 905.

—— Duodenal ileus. *Lancet*, 1933, i, 1107.

N. Burgess. Experiences with proteose in treatment of diseases of skin. *B.M.J.*, 1933, i, 914.

M. E. Shaw. Sphygmomanometer in diagnosis of cardiac irregularity. *Lancet*, 1933, i, 957.

F. E. Shipway. Note on avertin anæsthesia in operations on upper respiratory tract. *J. Laryng. and Otol.*, 1933, xlviii, 389.

Change of Address

L. K. Robson, M.B., B.S., Park House, Westmount Road, Eltham, S.E 9.

Births

GRASBY.—On June 3rd, 1933, to Peggy, wife of E. Dudley Grasby, M.B., B.S., Overton House, Ferndale, Tunbridge Wells—a daughter.

GREENWOOD.—To Dorothy Helen, wife of Eric John Greenwood, on May 26th, 1933, at 14, Star Hill, Rochester—a son.

Marriages

ROBSON—PENNING.—On Saturday, May 20th, 1933, at Eltham Park Church, L. K. Robson, M.B., B.S., to Honor, only daughter of Mr. and Mrs. S. H. Penning, of Eltham.

GARNETT—JOHNSON.—At. St. John's Afghan Memorial Church, Colaba, by the Rev. H. Ball, on Saturday, April 29th, 1933, at 11 a.m., Capt. Edgar Garnett, East Lancashire Regt., son of Mr. and Mrs. J. Garnett, of Stalybridge, Cheshire, to Geraldine Adele Frederica Johnson, late Q.A.I.M.N.S., elder daughter of the late Edward O. Johnson, O.B.E., I.S.O., formerly Colonial Treasurer of Sierra Leone, and late of Samares, Jersey.

EDS. { M. J. McA. / C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVII — *24th June*, 1933 — *Number* 1172

PASSIM

IT has often been said of the medical man that his intense preoccupation in his work makes him intolerant of criticism and disinterested in affairs which do not directly concern his profession. During the last few days, however, the Hospital has been enlivened by one lecture and two meetings which have invited us to take stock not only of our methods but also our attitude to current events.

The Fison Memorial Lecture was given this year by the Bishop of Durham, on "Ethical Considerations of the Scientific Method." Dr. Hensley Henson, claiming neither scientific nor philosophical authority, did not attempt to provide any solution, but aimed at throwing light on the whole problem of the moral obligations of scientific research. He laid special emphasis on the methods that particularly affect medicine, such as vivisection, and showed, what we are apt to forget, that a doctor can have no claim to be considered as a scientist. Its clearness and power of stimulating thought made this, perhaps, the most successful so far of this series of lectures.

At a meeting of the Physiological Society Professor Haldane opened a discussion by maintaining "that a policy of discrimination or persecution on racial grounds had no scientific justification." He made a very strong case for intellectual tolerance, with special reference to the exclusion of Jews from German professional life, showing the absurdity of any scientific justification for such a course. Goaded by Professor Pembrey, his wit and repartee were delicious, and the general discussion showed agreement that the present persecution was entirely on political rather than racial grounds.

At a meeting organised by Mr. Atkins in the Revelstoke Library to discuss methods of organising world peace, Dr. Ryle took the Chair and Mr. Poole was the principal speaker. Although an official representative, he gave little hope of the League of Nations ever becoming an effective agent in the prevention of war. He was obviously an experienced and extremely capable speaker, but did not strike us as an ardent advocate of peace, nor had he Mr. Atkins' enthusiasm or sincerity. His long and fluent speech left little time for general discussion. This was a pity, as we had hoped to hear many opinions, and especially to discuss Mr. Atkins' concrete proposals, which, fortunately, were available in print for further consideration.

AMONG the pleasant memories of last year there stand out one or two functions which we can truthfully say we should like to attend again. Certainly one of these was the dance held in the B.M.A. building in Tavistock Square, organised by the Guy's Ladies' Association. That evening there were so many attractive features that even the most hardened of bachelors smoking an interminable chain of cigarettes could not but enjoy himself. It was not only the beautiful surroundings, the excellence of the band, or the appeal of the refreshments that won our hearts so much as the general atmosphere of gaiety and pleasure. The whole thing went with a remarkable swing. This year we hope to renew the same pleasure on July 7th, when the Ladies' Association have again arranged a similar ball for our benefit, though ostensibly it is to endow beds and cots in Victoria Ward. Those who went last year we know will want to be there again, and we can heartily recommend a dance in the B.M.A. building to those who have not yet tried it. Tickets are only 10*s.* 6*d.* each, and may be had from Mrs. Davies-Colley, 10, Devonshire Place, W.1, or from the Appeal Office at Guy's.

SOME time before his death Sir Charters Symonds kindly sent his instruments to be sold for the benefit of the Hospital. Many were eagerly bought, and £24 was realised, but there are still a considerable number on hand Those who would like to avail themselves of the opportunity of acquiring them should apply to the Superintendent's Office.

THE results of the Final F.R.C.S. Examination show that Guy's still maintains its brilliant record of success in this stiff test. It is almost unnecessary to congratulate Mr. Massie; year after year he achieves the almost impossible, but to get 10 out of 16 through this examination is a particular glory even for him. We see also that he has just been appointed Examiner in Anatomy in the Primary Fellowship. Of the successful candidates we would like to single out Messrs. A. R. Clarke and A. J. Grace in particular for our congratulations for they are still with us, and Mr. Grace is still a Resident.

The following were the ten successful candidates :—

G. L. Alexander
F. W. Allinson
M. Bennett-Jones
A. R. Clarke
A. J. Grace
V. S. John
H. F. McNickle
K. H. Seah
D. Stanley-Jones
C. J. Thurgar

In addition, the following Guy's men also obtained the Fellowship at the same examination :

J. Jemson W. Leslie

IT seems to be a tradition that the B.M.A. prize awarded for the best essay on a medical subject written in competition with the London Hospital should each year come to Guy's. This year we have to congratulate Mr. C. A. Clarke most heartily on his success; we hope to publish his prize-winning essay in a future issue.

AT the next Annual Representative meeting of the B.M.A. which starts in Dublin on Friday, July 21st, the following Guy's men will be holding office, or taking a leading part in the discussions :—

Surgery.—Discussion on "Radiation Therapy in Malignant Disease." Mr. E. G. Slesinger.

Diseases of Children.—Discussion on "The Deficiency Anæmias of Childhood." Dr. A. C. Hampson.

Orthopædics.—Paper on "The Treatment of Painful Feet." Mr. A. S. Blundell Bankhart.

Public Health.—Discussion on "The Housing Question, with Special Reference to the Present Position." Sir Francis Fremantle.

Dermatology.—Vice-President—Dr. G. B. Dowling.

Obstetrics and Gynæcology.—Paper on "A Modification of the Friedman Test for Pregnancy." Dr. P. M. F. Bishop.

IT is a rare distinction to win both the Treasurer's Gold Medals in Medicine and Surgery in a single year, and Mr. I. G. Robin earns our keen admiration and sincere congratulations on his achievement. Messrs. G. V. Doherty, M. S. Spink and G. L. B. Thurston were awarded certificates in the Surgery.

Obituary

GEORGE HOOK RODMAN, M.D.

WE regret to announce the death of Dr. Rodman at his home in Putney on the 25th May, 1933, at the age of 72. He qualified at Guy's in 1883 and, after holding house appointments, was R.M.O. at the Radcliffe Infirmary, Oxford. He took his M.D., Durham, in 1886, and was in practice at East Sheen from 1887 to 1913, when he retired. He was one of the pioneers of X-rays, taking his first photograph in 1885, and wrote some of the first papers on the subject. Like so many early workers he developed X-ray dermatitis of the hands, and only two years ago malignant changes necessitated treatment at the Fulham Road Hospital.

Dr. Rodman was well known for his wide scientific interests both during his medical career and especially after his retirement. He was at various times President of the Royal Photographic Society, the Rongent Society and the Photomicrographic Society. He was an enthusiastic student of botany and insectology, and his frequent lectures were illustrated from his varied and comprehensive collection of slides and microphotographs. He exhibited his work at numerous photographic exhibitions and among his many contributions to scientific literature may be mentioned his photographs of specimens from the Royal College of Surgeons for Mr. Lawford Knaggs' "Morbid Anatomy of Chronic Arthritis."

He will be missed in many fields as a man of inquiring and scientific mind, and we offer our deepest sympathy to his wife.

The Endocrine Control of the Female Sex Cycle

By P. M. F. Bishop, B.M., B.Ch.

THE literature on this subject has become unwieldy. The views expressed by any one author are liable to contradiction by the next. Consequently the tendency is for the average student, the average practitioner, even the average gynæcologist, to disregard the whole affair. But the subject is of considerable importance, and out of it will grow, in time, a rational and, let us hope, successful method of treating the so-called functional disorders of menstruation. The aim of this article is to state as simply as possible the main facts and theories which have developed from the last five to ten years' work in this branch of physiology, in the hope that it may stimulate those who have the opportunity of encountering patients suffering from these disorders to bear in mind the possibility of rational organotherapy.

THE HORMONES CONCERNED IN FEMALE ENDOCRINOLOGY

1. *Oestrin.*—More is known about oestrin than any of the other sex hormones. It is the only hormone which has been isolated in pure crystalline form and to which a chemical formula has actually been assigned. The three groups of workers responsible for isolating these crystals are Allen and Doisy in America, who named the substance "Theelin"; Butenandt in Holland, whose preparation has been commercialised by Schering's under the name of "Progynon," and Marrian and Parkes in this country, who are responsible for the name "Oestrin." All these workers are agreed that the hormone has an empirical formula of $C_{18}H_{22}O_2$, and is a sterol chemically related to cholesterol and Vitamin D. It has not yet been synthesised. It is soluble in ether and 80 per cent. alcohol, but only very slightly in water, and is thermostable.

Source.—Though oestrin has been obtained from a surprising variety of tissues, such as placenta, blood, urine, bile, fæces, testes and a large number of plants and vegetables, from willow catkins to Westphalian coal, the only well-established original source of the hormone is the ovary. It may be obtained from the liquor folliculi and from the corpus luteum—in fact, the latter actually produces a greater concentration of oestrin than the former, so that it is probable that the primary source of the secretion is the cells of the membrana granulosa and their successors, the true lutein cells. The interstital and stromal tissue of the ovary probably does not secrete oestrin, though it may be stored here, as it may be in the placenta during pregnancy. Oestrin, after its secretion by the ovary, circulates in the blood stream and may be excreted in the urine, the fæces or the bile. No satisfactory explanation has been put forward, so far, of its presence in the male body and in plants.

Functions.—Oestrin increases the development of all extra-ovarian sexual organs. It has no effect on the ovary itself and does not cause ovulation.

Method of Assay.—Although the chemical constitution of oestrin is known, the methods of obtaining the pure crystalline compound are laborious and obviously unsuitable for the quantitative estimation of the hormone. The method of "bio-assay" is generally employed for the quantitative analysis of all hormones, and in the case of oestrin provides a comparatively accurate and delicate procedure. Adult female mice or rats are chosen as the test animals, and advantage is taken of the fact that the vaginal epithelium in these animals is particularly sensitive to the action of oestrin. This may be demonstrated by means of the vaginal smear technique of Allen and Doisy. A smear is taken from the vaginal epithelium by means of a platinum loop and spread on a microscope slide. The cells are stained with thionin blue for half a minute, washed with distilled water, dried over a flame and the slide examined microscopically. Four phases may be differentiated by means of the vaginal smear:—

i. Oestrus.—This coincides with the period of ovulation, and is the time when the secretion of oestrin by the ovary (in rodents) reaches a maximum. The vaginal epithelium has at this time attained its fullest oestrous development. The cells are many layers thick and the superficial layers have become cornified. The vaginal smear, therefore, shows only large non-nucleated squamous epithelial cells.

ii. Post-oestrus.—Here the epithelium is beginning to regenerate, and the smear shows a few non-nucleated epithelial cells, and an increasing number of leucocytes.

iii. Dioestrus or the resting phase.—At this time the vagina secretes a large amount of mucus, and the smear shows a considerable number of leucocytes with an occasional nucleated epithelial cell.

iv. Pro-oestrus.—The epithelium is again beginning to proliferate, the leucocytes disappear and the smear consists of a mixture of nucleated and

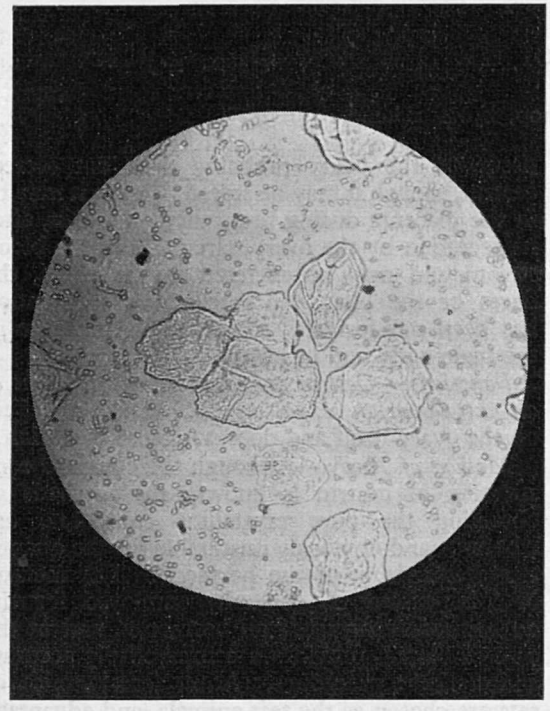

Fig. 1
Oestrous smear. Non-nucleated epithelial cells only. (Low power).

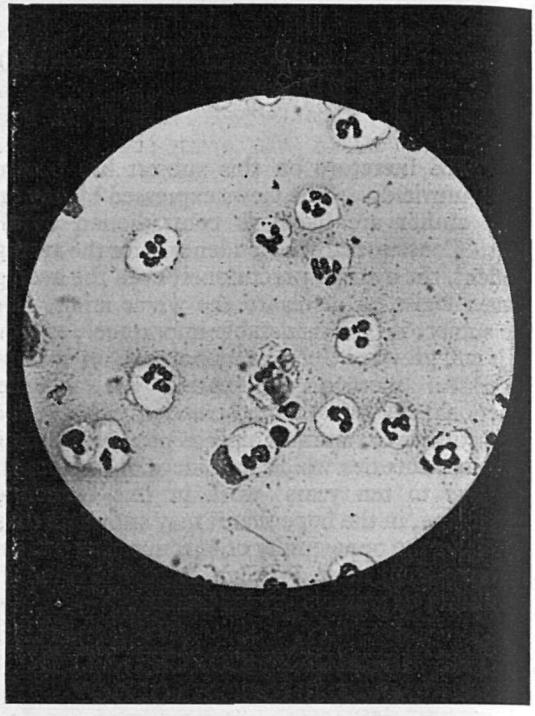

Fig. 3
Dioestrous smear. Leucocytes only. (Low power).

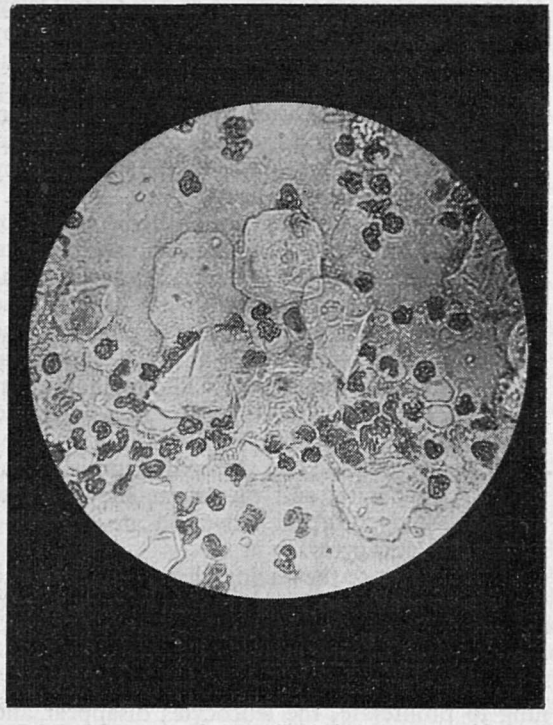

Fig. 2
Post-oestrous smear. Squamous epithelial cells and leucocytes. (Low power).

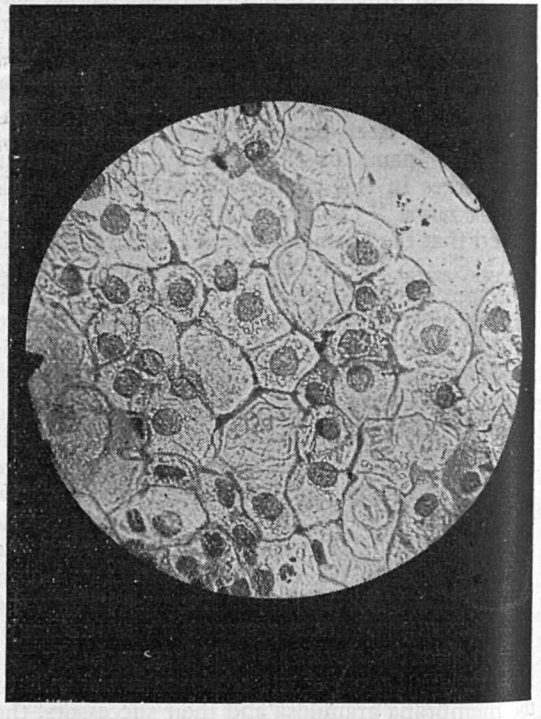

Fig. 4
Pro-oestrous smear. Nucleated and non-nucleated epithelial cells. (Low power).

non-nucleated epithelial cells. (Figures 1-4 are photomicrographs of smears taken from mice and are typical of each of the four phases.)

Fortunately, rodents have a short vaginal cycle and oestrus recurs about every six days. Daily vaginal smears are taken from each test animal for a fortnight, and any animal in which the oestrous cycle is irregular is discarded. Having demonstrated the regularity of the cycle, the animal is spayed to remove the source of its own oestrin supply. Daily vaginal smears are again taken for a fortnight to ensure that no ovarian tissue was left behind at the operation, and any animal in which an oestrous smear is obtained after operation is discarded. The animal may now be employed for the detection of oestrin. Let us suppose one wishes to demonstrate the presence of oestrin in a sample of urine obtained from a pregnant woman. Five mice, prepared as described above, are used. 15 c.c. of urine are injected subcutaneously in six divided doses into each mouse in the course of two days. On the fourth day after the first injection non-nucleated epithelial cells only should appear in the vaginal smear of at least one of the animals. (This technique forms the basis of Mazer and Hoffman's Oestrin Pregnancy Test.) Thus by the use of rodents oestrin may be assayed quantitatively, and its concentration in any particular tissue or extract measured in rat or mouse units.

A rat unit (R.U.) is the highest dilution of oestrin which, when given in three divided doses at four-hour intervals, will produce cornification of the vaginal epithelium in the castrated mature rat at the end of three days after the first injection. A mouse unit (M.U.) is the smallest quantity which, divided into six doses and given within 48 hours, produces cornification of the vaginal epithelium in 75 per cent. of the castrated mice injected, *i.e.*, at least 9 animals out of 12. (5 M.U. =1 R.U.)

Available Standardised Products of Oestrin

Theelin, 50 R.U. per c.c. (Parke, Davis).
Oestroform, 1,000 M.U. per c.c. (hypodermic) (British Drug Houses).
Oestroform, 1,000 M.U. per tablet (oral).
Estrogen, 25 R.U. per c.c.
Amniotin, 10-20 R.U. per c.c. (hypodermic).
Amniotin, 400 R.U. per c.c. (oral).
Menformon, 40 M.U. per c.c.
Progynon, 25 R.U. per c.c. (Schering).
Progynon tablets, 30 R.U. per tablet (oral).
Folliculine, 5 R.U. per c.c.
Theelol tablets, *circ.* 100 R.U. per tablet (oral).
Gelatin pessaries of theelin and amniotin, 40 R.U. in each.

Oestrin is not destroyed by the digestive juices and may, therefore, be given by mouth, though the dose should be four to five times as great as the hypodermic dose. Oestrin very rapidly deteriorates in aqueous solution, so that the preparation employed should be as fresh as possible.

2. *Progestin.*—This is the only other hormone secreted by the ovary, at any rate in the case of the human being. (Another hormone with different chemical properties from progestin has been isolated from the corpus luteum of certain animals and has the power of relaxing the pelvic ligaments in certain experimental animals, such as the guinea-pig. It is known as "Relaxin.") Progestin is the active principle of the corpus luteum, and is, therefore, secreted only during the post-ovulatory phase of the ovarian cycle, whereas oestrin is secreted, in varying amounts, throughout the cycle. It has not been prepared in crystalline form, no formula has yet been assigned to it, and very little is known of its chemical and physical properties. The source of the secretion of oestrin is the luteal cells which are derived from the granulosa cells after ovulation has occurred. (It is possible that the theca lutein cells, which are derived from the theca interna, may also secrete progestin.)

Functions.—i. *The relationship between oestrin and progestin.* The following experiments provide the clearest demonstration of the relationship between these two hormones. If the castrated monkey is injected with oestrin the uterine endometrium undergoes what, for the moment, we may call the pre-ovulatory type of proliferation. If progestin is *subsequently* injected, a pre-menstrual endometrium results. If progestin alone is injected, without previous sensitisation of the uterus by oestrin, the endometrium remains in the undeveloped resting condition and is quite unaffected by the progestin. If oestrin and progestin are injected *simultaneously* the endometrium is again unaffected. In other words the progestin has antagonised the effect of the oestrin. Thus we can say that normally the function of oestrin is to sensitise the endometrium to the subsequent action of progestin, so that the two hormones are synergistic, but if they are administered simultaneously they are antagonistic.

ii *Action on the endometrium.*—The function of progestin is to prepare the endometrium for nidation of the fertilised ovum. This consists in the elaboration of a decidual type of stroma, and reputable histologists confess to being unable to distinguish between the pre-menstrual stroma and the decidua of pregnancy. The development of a decidual type of cell under the influence of

progestin is further exemplified by the production of "deciduomata." A castrated rat is artificially brought into oestrus by injection of oestrin; one uterine horn is then transfixed by a silk thread and progestin is administered. On killing the animal a tumour consisting entirely of decidual cells will be found localised to the part of the uterus injured by transfixion with the silk thread. This tumour is called a deciduoma or "placentoma." If, after transfixion of the uterus, no progestin is administered, the deciduoma will not develop.

Progestin has an *inhibitory effect on uterine motility*. It is found that in the normal animal the uterus undergoes slow spontaneous contractions at the height of oestrus, whereas during dioestrus, pseudo-pregnancy or the early part of pregnancy uterine movements are feeble and more rapid. Furthermore, isolated strips of non-pregnant uterus when perfused with a solution containing pituitrin respond immediately with rhythmic contractions. As soon as progestin is added to the perfusion bath the contractions cease. Again, strips of pregnant uterine muscle will not contract under the influence of pituitrin, owing to their having been conditioned by the circulation of progestin in the blood in the early stages of pregnancy.

iii. *Influence on ovulation.*—Unlike oestrin, which has no effect on ovulation, progestin can postpone this event. As the result of daily administration of progestin ovulation has been inhibited in certain animals for a period of time corresponding to, or even exceeding, the normal duration of pregnancy in that particular species. During this period, which is known as "pseudo-pregnancy," all the phenomena of the luteal phase of the ovarian cycle are in evidence, such, for instance, as the production of a dioestrous vaginal smear and the hypertrophy and commencing development of secretion by the mammary glands.

Method of Assay.—Progestin is measured in rabbit units, the criterion being the production of progestational changes in the endometrium of a castrated animal previously brought on heat artificially by the administration of oestrin.

There are no well-defined therapeutic indications for the administration of progestin, except, perhaps, the maintenance of pregnancy in cases with a previous history of repeated miscarriage. This is fortunate, since there is no available standardised preparation of the hormone on the market.

3. *The Anterior Pituitary Sex Hormone.*—Comparatively little is known for certain about the anterior pituitary sex hormone. By transplanting fresh anterior pituitary lobe tissue obtained from adult animals into young rats and mice precocious sexual development associated with marked ripening of the Graafian follicles can be produced. Though ovulation may occur as the result of these implants, corpora lutea are seldom found. On the other hand, an alkaline extract of anterior pituitary lobe substance was prepared by Evans and Long which induced luteinisation of the follicles and the formation of corpora hæmorrhagica. The difference in the responses obtained by these two methods led to the suggestion that two gonadotropic hormones are secreted by the anterior lobe of the pituitary—the one, Prolan A (Zondek), causing follicular maturation; the other, Prolan B, being responsible for luteinisation and the formation of blood spots. Considerable evidence in support of this suggestion has been produced by a number of workers of well-established reputation who claim to have separated the two factors by clinical methods. On the other hand, equally reputable authorities are of the opinion that at present there is insufficient evidence of two separate gonadotropic anterior pituitary hormones.

The source of the anterior pituitary sex-maturing hormone is again the subject of increasing controversy. As the result of castration a new type of cell appears in the anterior pituitary lobe, the so-called "castrate" cell. Histologically this appears to be half-way between a chromophobe and a chromophil cell, and since its cytoplasm contains vacuoles, faintly staining basophil granules and the type of Golgi apparatus found normally in basophil cells, it has been regarded by some as a degenerating basophil cell, whose atrophy has been induced by the removal of those sex organs, (the ovaries or testes, as the case may be), the activities of which it is its function to control. This represents the main evidence in favour of the origin of the sex principle from the basophil cells. This theory, which receives little support from such clinical conditions as the recently described syndrome of basophil adenoma of the pituitary, has been called in question by many eminent authorities, including Cushing.

Following their work on pituitary implants, Zondek and Aschheim discovered that during pregnancy an active principle is present both in the blood and urine which has a similar effect on the immature ovaries of mice and rats to that of the pituitary transplants and the alkaline extract of Evans and Long. As the result of this discovery they established the now famous Aschheim-Zondek test for pregnancy. This test is so important that everyone should be familiar with the details of the technique. Five female mice, 21-24 days old, are chosen as the test animals. The urine for diagnosis is detoxicated by treatment

with ether or sulpho-salicylic acid and injected intramuscularly in six divided doses of 0.4 c.c. The injections are made twice daily, and the animals are killed 100 hours after the first injection. The ovaries are inspected with a hand lens for the presence of ripe Graafian follicles (Reaction I), corpora hæmorrhagica, *i.e.*, ripe follicles into which a hæmorrhage has occurred (Reaction II), and/or corpora lutea (Reaction III). The presence of these structures in one of the ten ovaries is indicative of a positive reaction. Should Reaction I occur alone, the test is repeated, for it is produced, according to Zondek, by an excess of Prolan A, such as occurs frequently at the time of the menopause.

An important modification of the Aschheim-Zondek test was introduced by Friedman in 1930, and is now used in preference to the original test in America, and is beginning to find favour in this country. The modification consists of the use of an adult female rabbit as the test object, the injection of 5-10 c.c. of urine intravenously, and inspection of the ovaries 24-48 hours later.

The similarity between the actions of anterior pituitary extracts and the principle found in urine of pregnancy, together with the fact that the anterior pituitary lobe is frequently found to be increased in size during pregnancy, led naturally to the presumption that during pregnancy the activity of the anterior pituitary increased enormously, so that it secreted into the blood stream its gonadotropic principles in such quantities as to exceed the renal threshold and allow a considerable amount to appear in the urine. It soon became apparent that the chorionic tissue provided the stimulus for the secretion of this hormone, for a positive pregnancy test may be obtained 10-21 days after conception and a negative reaction may be reported 48 hours after delivery. Furthermore, in cases of hydatidiform mole or chorion-epithelioma the substance reaches so high a concentration that the urine will give a positive reaction even when diluted 300 times. Moreover, Collip reported the extraction of a gonadotropic principle from the placenta very similar in its actions to urine and serum of pregnancy.

Recently doubts have been entertained as to whether the substance found in urine of pregnancy is identical with, or only similar to, the gonadotropic hormones of the anterior pituitary lobe. Two pieces of evidence have been brought forward to support the theory that the ovary-stimulating factors found in urine of pregnancy are secreted by the cells of the chorion and not by the anterior pituitary lobe. The first is a careful comparison of the potency of anterior pituitary extracts obtained from pregnant and non-pregnant animals The extracts from pregnant animals show no increased potency whatever. The second is the recent work of Collip, which he described in such careful detail in this hospital recently. Pursuing his work on the placental hormones, Collip set out to study the effect of injection of various extracts into hypophysectomised rats. Hypophysectomy resulted in cessation of growth and atrophy of the thyroid, suprarenals and gonads—the type of picture found in human beings suffering from Simmonds' disease, in which the anterior lobe of the pituitary is completely destroyed by either a tumour, tubercle or thrombosis or embolism of its blood supply.

Rats treated with anterior pituitary implants or extracts returned to normal and Reactions I, II and III of Zondek could be produced in immature animals. Hypophysectomised animals treated with the placental hormone, or with prolan (the substance obtained from urine of pregnancy), responded, however, not with a typical Aschheim-Zondek reaction, but with the production of pseudo-corpora or corpora lutea atretica, in which ovulation has not occurred, so that the ovum and its surrounding membrana granulosa have become imprisoned and are gradually compressed by the proliferation of the theca interna with the formation of theca lutein cells. Thus the placental hormone has no effect on the parenchymatous tissue of the ovary, *i.e.*, the follicles, but only on the interstitial tissue, *i.e.*, the theca interna. Similarly, in male

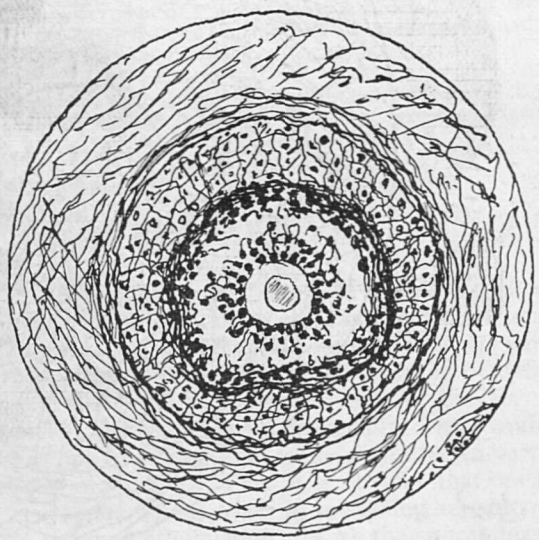

Fig. 5

Pseudo-corpus, *i.e.*, proliferation of theca interna, absence of ovulation with retention of ovum, granulosa not converted into luteal tissue.

Effect of prolan or placental hormone alone. (Diagrammatic.)

rats prolan and the placental hormone affect only the interstitial tissue and have no effect on the developing spermatids. As a corollary to this experiment he found that if normal rats, aged six days, were treated with prolan or the placental hormone, only pseudo-corpora were produced, whereas if the animals had reached 21 days of age a full-blown Aschheim-Zondek reaction resulted. His interpretation of these results is as follows: The anterior lobe of the pituitary secretes two fractions of the maturity principle, one of which is identical with the placental hormone or the prolan of pregnancy urine, and the other, the " complementary substance," which does not appear until the 21st day of life in the rat, and which is essential for full development of the follicles. This conception is represented by the diagrams (Figures 5 and 6).

As the result of these recent advances in anterior pituitary physiology the nomenclature has become extremely confused. When Zondek described Prolan A and B it was believed that they were originally derived from the anterior pituitary lobe. At this time the maturity principle found in blood and urine of pregnancy was considered identical with the anterior pituitary maturity principles and was, therefore, also referred to as " Prolan," which was the name adopted by Bayers' for their commercial product derived from urine of pregnancy. Subsequently Collip isolated certain active principles from the placenta, one of which possessed so many properties in common with the gonadotropic principles of the pituitary that it was thought merely to represent the storage of these principles in the placenta. Those who doubted its identity with the anterior pituitary principles referred to it and to the principle of urine of pregnancy as " anterior-pituitary-like hormones." (The " Rho I " and " Rho II " factors described by Wiesner were

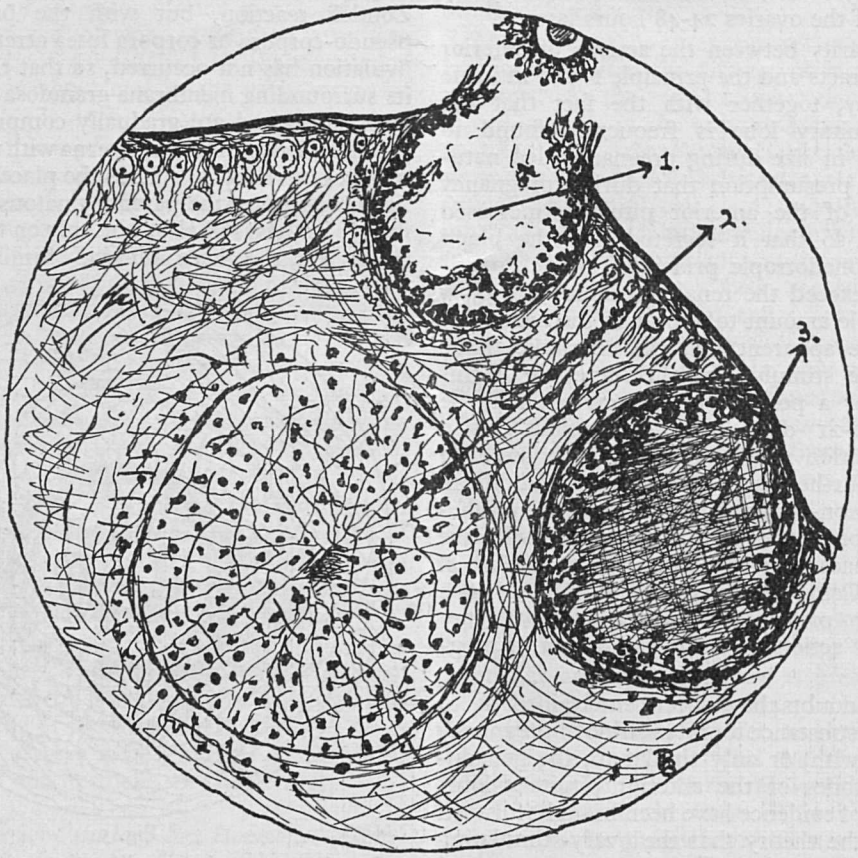

Fig. 6

1. Ruptured follicle with extruded ovum. 2. Normal Corpus luteum.
3. Corpus hæmorrhagicum.

Effect of (1) anterior pituitary extract, or (2) of prolan (or placental hormone) + complementary substance of anterior pituitary lobe. (Diagrammatic.)

also isolated from the placenta and should, therefore, be cautiously referred to as "anterior-pituitary-like" hormones.)

Two further terms have crept into the literature: "Antuitrin-S," which is the name coined by Parke, Davis & Co. for a standardised preparation from urine of pregnancy, and "Gravidan," used by Zamkoff to describe his crude sterilised preparation of whole urine of pregnancy. Once the experts have satisfied themselves with the identity of these various principles, the nomenclature, one hopes, may be considerably simplified.

Fortunately, the principles of the anterior lobe concerned with the control of growth, the thyroid and the suprarenals, do not fall within the scope of this article.

MENSTRUATION

The facts concerning menstruation have been difficult to elicit, since the only experimental animals which exhibit this phenomenon are the higher apes. These have, however, been extensively studied, and the following theories are founded on the knowledge of the habits of these animals, and on the information obtained as to the inter-relations of the ovarian and menstrual cycles in woman.

There are two possible types of menstruation—menstruation with ovulation and menstruation without ovulation. The latter type occurs only rarely in human beings, and the more normal sequence of events will therefore be discussed first.

Menstruation with ovulation.—This type of menstruation is regulated by the secretion of oestrin and progestin, which in turn is controlled by the gonadotropic hormones of the anterior pituitary.

The menstrual cycle may be divided into four phases: (1) The menstrual phase, which lasts, on an average, for four days; (2) the post-menstrual or resting phase, which lasts four days; (3) the interval phase, which lasts ten days, and (4) the pre-menstrual phase, which lasts ten days.

Ovulation in the human female occurs between the 11th and 15th day after the first day of the previous period, so that rupture of the Graafian follicle will take place somewhere about the middle of the interval phase. The ovarian cycle, which consists of two phases, follicular or pre-ovulatory and luteal or post-ovulatory, can, therefore, be accurately correlated with the endometrial cycle. The follicular phase corresponds to the resting period and the first half of the interval stage, whereas the luteal part of the ovarian cycle corresponds to the latter half of the interval phase and the whole of the pre-menstrual phase.

The histological characteristics of the endometrium during the various stages of the cycle are so well known that they need only be summarised here:—

	Menstrual.	*Resting*	*Interval.*	*Pre-Menstrual.*
Mucosa	Shed.	Thin.	Proliferates.	Highly developed.
Submucosa	Compacta and spongiosa shed. Basalis preserved.	Commencing re-generation of basalis.	Three Layers:— Compacta, spongiosa, basalis.	Compacta—Thin, mainly stromal cells. Spongiosa, Thick, mainly dilated glands. Basalis—Fundus of glands.
Glands	Only fundus remains.	Narrow, straight and widely separated.	Tubular, penetrate into basalis, closely packed together.	Tortuous, distended with secretion and in close approximation.
Glandular Epithelium	—	—	Cubical, central deep staining nuclei.	High columnar. Nucleus compressed by secretion against basilar membrane.
Stroma	—	Dense connective tissue.	Undifferentiated.	Decidua menstrualis.

The Cause of the Menstrual Flow.—There are two periods at which oestrin may be demonstrated in 40 c.c. of blood from a normally menstruating non-pregnant woman—at the time of ovulation and just before menstruation. At the former period oestrin is only occasionally demonstrable, whereas at the latter it is demonstrable in 94 per cent. of women. Thus it is obvious that oestrin is secreted by the ovary in increasing amounts up to the time of ovulation. With the appearance of progestin the oestrin concentration falls, possibly owing to increased oestrin excretion (it is one of the functions of progestin to lower the renal threshold for oestrin), but rises again to a maximum

just before menstruation, when it falls abruptly to the post-menstrual level. A series of experiments performed on castrated monkeys has shown that the sudden cessation of a course of

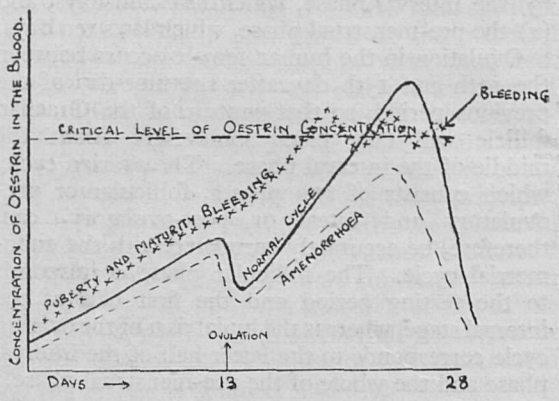

Fig. 7

Schematic representation of blood oestrin content in the normal menstrual cycle, in amenorrhœa, and in puberty and maturity bleeding, showing the "critical level." When the oestrin concentration falls below this level bleeding commences.

oestrin injections in large doses gives rise to uterine hæmorrhage. It is, therefore, evident that the primary cause of the menstrual flow is the sudden decrease in the oestrin level. The fact that bleeding does not occur at the time of ovulation when there is also a dip in the oestrin curve (*see* Fig. 7) shows that it is essential for the oestrin to reach a certain height of concentration and then to drop below this level before the hæmorrhage will occur. This explains a certain number of cases of amenorrhœa due to primary ovarian deficiency in which there is not a sufficient secretion of oestrin. These variations in the oestrin level are, of course, dependent on the secretion of the anterior lobe hormones, which are responsible primarily for the control of the rhythm of the ovarian and, therefore, of the menstrual cycle. The function of progestin in relation to the menstrual processes is remote. It has nothing to do with the initiation of bleeding. It converts the endometrium into suitable soil for the implantation of a fertilised ovum and it inhibits ovulation. As soon as the follicle has ruptured and discharged its ovum luteal tissue appears and progestin is secreted, which inhibits the rupture of any other ripe follicle during that particular cycle.

The events of the ovarian and menstrual cycles may be shown diagrammatically, as in Fig. 8.

Menstruation without ovulation (*Pseudo-menstruation*).—The ovarian and menstrual cycles of monkeys have been studied by Corner and Hartman, who have observed the very frequent occurrence of menstruation without previous ovulation in these animals, especially at the breeding season. No corpus luteum is formed, and the endometrium does not assume the typical appearance of the pre-menstrual phase, but the

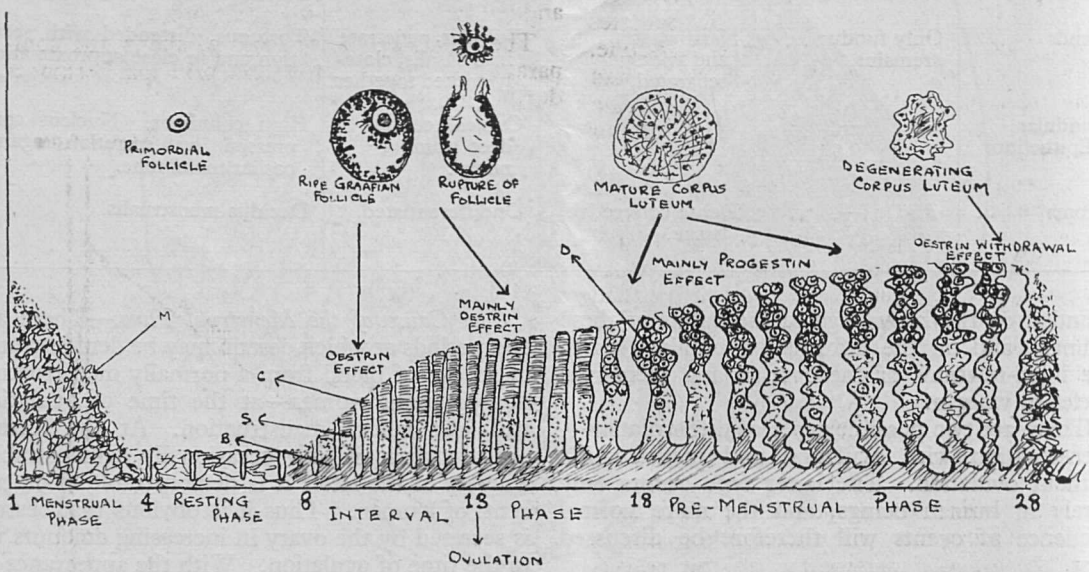

Fig. 8

Diagram correlating the events of the ovarian and endometrial cycles. The shedding of the two superficial layers of the submucosa are represented during the menstrual phase (M). The three layers of the submucosa, which begin to differentiate during the interval phase, are indicated as (B), basalis, (S) spongiosa, and (C) compacta. The decidua-like stromal tissue (D), characteristic of the pre-menstruum, is also shown.

bleeding occurs as the result of increased vascularity and diapedesis of blood from an interval type of endometrium. Animals, while displaying this type of menstruation are, of course, sterile, for no ovum is extruded from the ovary, and fertilisation cannot occur. This type of pseudo-menstruation is rarely seen in the human female, and is, therefore, responsible for only a small proportion of cases of functional sterility.

This phenomenon of pseudo-menstruation again shows that the actual menstrual flow does not in any way depend on progestin, but is determined solely by variations in the oestrin level, and that the function of progestin is to elaborate a nidatory type of endometrium.

PREGNANCY

Fertilisation occurs usually when the ovum is in the ampullary end of the tube and the morula reaches the uterus from seven to ten days after fertilisation, *i.e.*, during the last week of the menstrual cycle, when the endometrium is at the height of its pre-menstrual condition and, therefore, forms the best possible nidus for implantation. At the time of fertilisation the ovum is enveloped by the zona pellucida or corona radiata which is formed from the adjacent cells of the membrana granulosa, which adhered to the ovum during its extrusion from the ruptured follicle. When the ovum at length reaches the uterine cavity it gives rise to the trophoblast, by means of which it is embedded in the decidua. As soon as the trophoblast appears it secretes into the blood stream the placental hormone. This is proved by the fact that sufficient prolan appears in the urine 10 to 21 days after conception to produce a positive Aschheim-Zondek or Friedman reaction. This placental hormone in its turn affects the ovary, either directly or through the medium of the anterior pituitary lobe, with the result that the corpus luteum, which was just on the point of degenerating, persists and increases in size, and continues to secrete both oestrin and progestin. As the result of the continued secretion of oestrin, the concentration of this hormone does not drop below the " critical level," and menstrual bleeding does not occur. Owing to the continued secretion of progestin, ovulation of subsidiary ripe follicles is prevented, and the nidatory character of the decidua is maintained until the developing embryo has obtained a firm foothold on the uterine wall. The theory that the placental hormone is responsible for the persistence of the corpus luteum is supported by the almost invariable co-existence of hydatidiform mole and lutein cysts of the ovary. In some animals, and particularly in human beings, the corpus luteum degenerates and disappears by the middle of pregnancy, but there is little doubt that its functions are taken over by the placenta. Not only has the pituitary-like hormone been isolated from the placenta, but also evidence of the secretion of both oestrin and progestin by that organ is at hand. On certain rare occasions it has been necessary to remove both ovaries at the third month of pregnancy. The continued presence of oestrin in the blood and urine of these women is proof of its secretion by the placenta. Further, evidence of the presence of progestin in the placenta of tuberculous women whose pregnancies have been interrupted at the sixth month, by which time the corpus luteum of pregnancy has disappeared, has been obtained, though the placenta at term contains no progestin.

The hormonal control of pregnancy may, therefore, be summarised as follows :—

1. The trophoblast secretes placental hormone, which procures the persistence of the corpus luteum of pregnancy and ensures the safe embedding of the fertilised ovum.

2. Oestrin continues to be secreted in increasing quantities, both by the corpus luteum and by the placenta. Thus the oestrin concentration does not drop below the " critical level " and menstrual bleeding does not occur.

3. Progestin continues to be secreted until near term. This secretion of progestin tends to hinder abortion of the developing embryo and fœtus : (i) by providing a suitable soil for nidation and (ii) by decreasing uterine motility.

The following figure (Fig. 9) shows the comparative secretions of the three principal hormones during pregnancy.

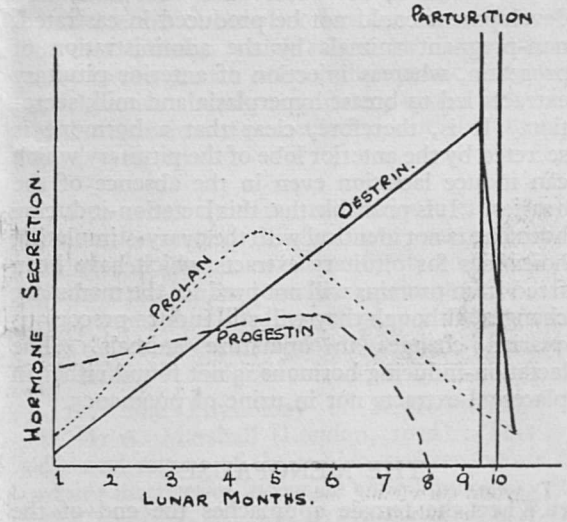

Fig. 9

Diagrammatic representation comparing the secretion of hormones during pregnancy

PARTURITION

In 1928 Bourne and Burn performed a series of experiments which tended to show that parturition was brought about by the combined action of oestrin and the oxytocic principle of the posterior pituitary, the two together producing more effective uterine contractions than each separately. This theory of the synergism between oestrin and oxytocin was, however, based on false premises, for the preparations of oestrin used by them in their experiments were impure and contained protein, which in itself will give rise to uterine contraction. Their results cannot be repeated with pure preparations of oestrin, such as are available at the present time. The main endocrine factor associated with the onset of parturition is probably the declining secretion of progestin as term approaches. It has been seen that progestin will inhibit the contractions of uterine muscle produced normally by the oxytocic factor of the posterior pituitary. The influence of progestin is gradually removed at term, with the result that the contractions of labour are induced under the influence of pitocin.

LACTATION

Modern ideas on this subject are due to the recent work of Corner. The artificial induction of pseudo-pregnancy by the administration of progestin and its association with lactation led to the idea that the development of the breasts during pregnancy and the secretion of milk in the puerperium were under the control of the corpus luteum. This theory was disestablished by Corner as the result of the observation that mammary development could not be produced in castrated, non-pregnant animals by the administration of progestin, whereas injection of anterior pituitary extracts led to breast hyperplasia and milk secretion. It is, therefore, clear that a hormone is secreted by the anterior lobe of the pituitary which can induce lactation even in the absence of the ovaries. It is probable that this lactation-inducing hormone is not identical with the ovary-stimulating hormones for pituitary extracts which have been freed from proteins will not produce the mammary changes, although they will still induce precocious ovarian changes in immature animals. The lactation-inducing hormone is not found either in placental extracts nor in urine of pregnancy.

THE MENOPAUSE

When the female approaches the end of the period of sexual maturity the ovaries begin to atrophy and this decline in ovarian secretion leads to a compensatory over-secretion of anterior pituitary hormones. This is manifested by the appearance in the urine of an anterior pituitary principle which will give rise to the Reaction I of Zondek when the urine is injected into immature mice—the follicle-stimulating factor. The oestrin secretion never reaches the "critical level," and amenorrhœa results. Owing to the deficiency of oestrin the uterus, vagina, vulva and breasts atrophy.

MENSTRUAL DISORDERS DUE TO ENDOCRINE DYSFUNCTION

I. AMENORRHŒA

All types of "functional" amenorrhœa are due to the concentration of oestrin in the blood failing to reach the "critical level" (*see* Fig. 7), but the cause of this failure differs according to the type of amenorrhœa.

1. *Primary Ovarian Amenorrhœa.*—Here the deficiency of ovarian secretion leads to a diminished output of oestrin, which cannot be demonstrated either in the blood or in the urine at any time. There is a compensatory over-secretion of anterior pituitary hormone which is demonstrable in the blood. The deficiency of oestrin results in a gradually progressive endometrial atrophy, which, if left untreated too long, may become irrevocable. The degree of uterine hypoplasia may be determined by the passage of a graded uterine sound. If the uterine cavity measures less than $3\frac{1}{2}$ cm. hormone treatment is of no avail. Two methods of treatment are available: (1) Intensive oestrin therapy, *i.e.*, from 200 R.U. to 1,200 R.U. daily by mouth (or one-fifth of these doses if administered hypodermically), continued for two or three months, depending on the degree of uterine hypoplasia; (2) Low-dosage irradiation of the ovaries with deep X-rays. Though this method of treatment is not so reliable as oestrin therapy, it represents a useful adjunct to it.

2. *"Low-Threshold" or "Non-Utilisation" Amennorhœa.*—Here no oestrin can be demonstrated in the blood, but an excess of oestrin appears in the urine. Histologically there is absence of ovulation and of luteal tissue, and the follicles are either cystic or atretic. The cause of the condition is probably a deficient ovarian circulation leading to a diminished secretion of oestrin, and a mild secondary uterine hyperplasia. The appearance of excessive oestrin in the urine indicates either an increased permeability of the kidney to oestrin or an inability on the part of

the endometrium to utilise even the small amount of oestrin with which it is supplied. Treatment should be directed towards improving the ovarian circulation by exercise, etc.

3. *Pituitary Amenorrhœa.*—Here the patient exhibits all the stigmata of mild hypo-pituitarism. Insufficient anterior pituitary hormone is secreted to stimulate the production of oestrin from the ovary in normal amount. The indication is to supplement the pituitary secretion by the administration of small doses of anterior-pituitary-like hormone in the form of either Antuitrin-S, Prolan or sterile urine of pregnancy ("Gravidan") —25 R.U. three times a week for three to six weeks, repeating the course after an interval of a month or two.

Under the heading of primary pituitary failure may be included most cases of *oligomenorrhœa* (delayed menstruation) and *hypomenorrhœa* (normal but scanty menses), and some of these cases benefit by treatment with anterior pituitary-like products.

II. Menorrhagia and Metrorrhagia

1. *Puberty Bleeding.*

2. *Maturity Bleeding* (Metropathia Hæmorrhagica).

Both these types have a common ætiology. In association with these cases definite pathological changes are found in the ovaries. The follicles are cystic and unruptured and may attain a large size. Luteal tissue is scanty or absent. The uterine changes are no less striking. The endometrium is hyperplastic and represents an exaggerated picture of the interval phase. No decidua menstrualis can be found. The glands, though straight, vary considerably in regard to the size of their lumen; some are dilated, others narrow. On cross-section this gives rise to what Novak has described as the appearance of Swiss cheese. The obvious cause of these pathological pictures is failure of ovulation. Oestrin continues to be secreted by the progressively enlarging follicular cysts. An excess of the hormone may at times be demonstrated in the circulating blood. This, then, explains the bleeding. The oestrin, though normally above the "critical level," varies considerably in the rate of its secretion, and frequently falls below this level (*see* Fig. 7).

Owing to the failure of ovulation, progestin is not elaborated, with the result that the endometrium remains in the interval stage and never develops the typical pre-menstrual characters. The cause of the condition is usually pituitary hypofunction, and indeed a large percentage of the puberty bleedings right themselves in a year or two without treatment, when the pituitary has settled down to its normal rhythm after the disturbances of endocrine balance which puberty so frequently induces. Obviously, oestrin is contra-indicated in the treatment of this condition, for we have already seen that variations in the oestrin concentration of the blood is the primary cause of uterine hæmorrhage. On the other hand, treatment with anterior pituitary-like hormones is specific. The object is to induce ovulation, and so to procure a normal balance between progestin and oestrin. This requires the administration of large doses of Antuitrin-S, Prolan or "Gravidan," and 100-200 R.U. should be injected daily until the next normal menstrual flow occurs.

3. *Pre-Climacteric Bleeding.*—The cause of the bleeding in this condition is the progressive failure of ovarian function and a consequent imbalance of the oestrin-progestin ratio. Organotherapy is, so far as we know at present, of little avail, and the most logical procedure is to hasten the menopause by means of radium or deep X-ray therapy.

III. Dysmenorrhœa

There is a type of functional dysmenorrhœa associated with an infantile type of uterus—long cervix, short body—and very frequently with sterility, which is due to lack of oestrin. The uterine muscle is insufficiently primed by oestrin, and enters upon spasmodic contractions at the time of the menstrual periods. These cases frequently yield to the same sort of treatment as primary ovarian amenorrhœa, namely, massive doses of oestrin.

There are obviously other functional disorders of menstruation which might be discussed, but they have not such definite therapeutic indications as the ones already mentioned, and unjustifiable enthusiasm in a treatment of doubtful value is to be deprecated.

This article attempts to provide merely a convenient summary of the more interesting and important aspects of the subject, and to serve, perhaps, as an introduction to the more detailed consideration of this branch of physiology. With this object in view the following books are suggested for further reading :—

1. "The Physiology of Reproduction," by F. H. A. Marshall (London, 1922). This is a classical review of the subject written before the recent discoveries in female endocrinology.

2. "The Internal Secretions of the Ovary," by A. S. Parkes (Longmans, 1929). A full and clear

account of the early work on ovarian and pituitary hormones.

3. "Female Sex Hormonology," by W. P. Graves (Saunders & Co., 1931). A short but lucid summary by a gynæcologist.

4. "Clinical Endocrinology of the Female," by C. Mazer and L. Goldstein (Saunders & Co., 1932). An excellent account of the applied physiology, with a detailed consideration of the principles of treatment and a valuable bibliography.

5. "Sex and the Internal Secretions," edited by Edgar Allen (Baillière, Tindall & Cox, 1932). A book of about 1,000 pages, compiled by all the leading American authorities, which represents an exhaustive review of all the American and some of the Continental literature. A thoroughly reliable and up-to-date reference book.

From Germany—Visits to some Surgical Clinics

By D. W. C. Northfield, Esq., F.R.C.S.

KLINIK DR. BOHLER

IT is, perhaps, natural for a Guy's man to take an interest in fractures, and this famous centre of fracture treatment was for me the chief surgical attraction in Vienna. I had hoped to see Professor Finsterer operate, but, unfortunately, material was not forthcoming during the short time I was staying.

Dr. Bohler was away, but the first assistant, Dr. Schnek, who spoke excellent English, gave me a warm welcome. I was invited to attend the next day, Friday, at 7.30 a.m., when a list of cases would be dealt with. At great personal discomfort I reached the hospital, but I still fail to appreciate the circumstances which force quite a number of surgeons to start work at what, to an "Englander," is an ungodly time.

A number of plasters were removed and, though skin-tight, they fell away when cut without any trouble from the sticking of hairs. Much more discomfort was entailed by the pressure of plaster shears against the skin. The easier method of soaking in water and then cutting with a knife was apparently unknown.

All the patients were, of course, walking with the iron patten, a very great advance to my mind upon the split plaster and crutches. The joint movements were good, the site of trauma painless to pressure, and a minimum of swelling. On removal of the plaster, in most cases a zinc and gelatine bandage was applied for a further period, in accordance with the well-known Bohler technique.

One or two lacerations of fingers were dealt with, for which a dressing of tinct. benzoin co. was applied. In another theatre a ganglion of the wrist was being excised. I was informed that the usual treatment was subcutaneous puncture with a tenotomy knife and dispersal by pressure.

Next came an old man who, several days previously, had sustained a small, incomplete, fissured fracture of the neck of the femur. A unilateral plaster hip-spica was applied as far as the knee-joint of the affected side. This was to remain for a few weeks, and was an ambulatory means of treatment. The bony points of the pelvis were protected with small pads and a thin bandage applied firmly around the pelvis. Apart from this there was no other padding, and the plaster fitted the leg skin-tight. The assistants were certainly very expert at plaster work, and the bandages were moulded *around* bony points with meticulous care.

I watched the reduction of a first degree abduction fracture at the ankle. There was considerable swelling, but the position of the fragments was good. The case was thus not a good one by which to judge the skill of the operator. Much emphasis seemed to be placed upon moulding the fragments with the fingers and pressing and dispersing the œdema. This manœuvre was persisted in for about 20 minutes before the plaster was applied.

The last case was a comminuted compound fracture of the shaft of the tibia, just admitted that morning. Though much comminuted and with several small lacerations of the skin, the intact fibula presented much deformity. Dr. Schnek gave a local and excised and sutured the wounds. Ice-tong callipers were applied to the os calcis and traction effected with the Bohler frame. A skin-fitting plaster was put on over a light dressing, extending from toes to tibial tubercle, the "tongs" being left in place incorporated in the plaster until the reduction had been checked by X-ray. All lower limb plaster cases are made with the sole portion extended anteriorly to form a support for the toes.

Before my visit I was keenly interested to see what results were obtained by experts with the use of local anæsthesia in fractures, according to the technique of this clinic. Here I was keenly disappointed, though my own experiences had led me to believe that it had been somewhat

over-rated. Perhaps the question rests on the definition of local anæsthesia. We are brought up to believe that the patient should only feel several initial needle-pricks and then absolutely nothing further. There should be no sensation of pain or discomfort, apart from the inevitable grating of bone, etc. Here it was very evident that, though much acute pain was relieved, yet much remained. Firm massage and manipulations certainly still produced considerable pain, though, if directly questioned, the answer given by the patient frequently was, "Oh, nothing much." But one can judge more adequately by the facial reflexes, especially in the stoic who does not care to make a fuss. It strikes one forcibly that many surgeons out here have come to the conclusion that certain measures ought to stop pain, and, quite unwarrantably, assume that they have. Perhaps in England we are a "soft" race; I trust we shall remain so.

Finally, a ward round was made. All types of plaster cases were to be seen—inscribed upon each the date of application, date for removal and sketch of the X-ray. There was a large number of recent and old cases of osteo-myelitis following compound fractures. The recent compound fracture is treated by débridement and suture whenever possible. Only where this leads to a great loss of tissue is a drain inserted. Ore's method is not practised. If there is a frank osteo-myelitis, the limb is suitably immobilised, by skeletal traction or a frame. The wound is left quite open to the air, protected from dust, etc., by a sort of miniature mosquito net. The crusts are periodically removed, to allow free overflow of pus. This corresponds in some measure to the Ore method, but there is much less smell. If the lower limb is affected, the patient is confined to bed until the cavity fills with granulations. Two major criticisms may be levelled against this method—the very long time spent in bed and inadequacy of drainage. Not that the wound is not freely open, but since the wound is frequently on the anterior aspect of the leg, gravity is an enemy, and pus fills the cavity as water in a stagnant pond.

This hospital organisation is, I believe, unique in the world. It was initiated by the Workmen's Compensation Insurance Society, and is housed in the top two floors of a building, the lower part of which forms the offices of the company. In every respect it is a most efficient institution, producing excellent results. There are 100 beds, and some 6,000 cases per year receive treatment. There is no massage department naturally, as all plasters remain unsplit. But the fundamental principles entail early muscular exercise and weight-bearing. Further, there are various mechanical appliances for exercising muscles and mobilising joints. The residents themselves are individually responsible for the practice of such physical methods.

KLINIK PROFESSOR LEXER, MUNICH

I was able to see Professor Lexer operate upon two cases—an old unreduced dislocated elbow and a torn medial meniscus of the knee-joint. The former he approached through a posterior U incision, and, after isolating the ulnar nerve, he exposed the joint by division of the olecranon process. This gave an excellent view of the interior of the joint cavity, and by removal of fibrous tissue, etc., reduction was effected. Following this, the cartilage of the radius and ulna was removed, the separated olecranon process secured in position with catgut, and the wound closed with a continuous suture. The limb was bandaged in extension.

Extremely interesting was the treatment of the knee. Following the application of a tourniquet, an oblique curved 6-inch incision was made, which roughly followed the course of the saphenous nerve and its infrapatellar branch. The distal part of the incision lay over the upper end of the tibia, with the leg in a semi-flexed position. The capsule of the joint and medial collateral ligament were exposed, and a transverse incision was made through both these structures. Abduction of the tibia now revealed a fine specimen of the "bucket-handle" rupture, and the cartilage could be traced visually from its anterior to posterior attachments.

The whole of the cartilage was excised from the capsule, and the wound temporarily covered with gauze. A thick fat graft was now cut from the thigh above the tourniquet, about 5 by 2 cm. This was placed in the space previously occupied by the cartilage and fixed in position with one catgut suture. The capsule was closed and plicated with silk sutures, and great care was taken to obtain accurate co-aptation of the ligament itself. The leg was placed in plaster for four weeks, after which period movements would be instituted. This is the Professor's usual approach for operations on the meniscus, though where the tear is small only the loose portion is removed and no graft is inserted. Plastic surgery of all varieties is Professor Lexer's forte, whether arthroplastics or æsthetic plastic work on the breast or face.

Anæsthetics favoured here are avertin and evipan. The latter is now enthusiastically used for all kinds of operations, even abdominal resections. It is administered as a continuous intravenous injection, and is considered very safe, non-toxic and cheaper than ether.

It was most stimulating in visiting these various clinics to compare methods adopted to ensure asepsis. One may surely presume that in such

famous clinics, for example, as this one and Professor Kirschner's the results will be the same. Yet the methods vary tremendously, not in the preparation of the patient's skin, nor of the instruments, but in the ritual adopted by the surgeon. Adequate cleansing of the arms and hands is present everywhere—indeed, it is *very* thorough. In Professor Kirschner's clinic, presently to be described, orthodox measures of donning masks, gloves, etc., is practised. On the other hand, in Professor Lexer's clinic gowns with short sleeves are worn, and therefore above the rubber gloves there is a considerable extent of bare skin. Over the rubber gloves are worn cotton ones, whilst the "instrument-sister" has ungloved hands. No one wears mask or hat. As evidence of the pre-eminent position asepsis holds in the Professor's mind, there is a photograph hanging in the theatre to which the attention of his guests may be drawn. It depicts the back views of two or three visitors crowding round the surgeon's table, with their hands in pockets, thereby splaying out the gowns and bringing them in contact with instrument tables.

KLINIK PROFESSOR SCHMIEDEN, FRANKFURT-A-MAIN

The university clinic of Frankfurt, where Volhard is professor of medicine and Schmieden professor of surgery, is another enormous city hospital. Professor Schmieden has three chief assistants and some 20 others more junior, each in charge of one or more "stations" or wards. There is a separate building recently built for private patients. A most remarkably happy atmosphere is evident in the department for surgery. The Professor is a small, slightly rotund, figure, with a delightfully genial and affectionate manner towards colleagues, students and patients.

Each morning at 8 a.m. the Professor meets the assistants of the clinic in the X-ray department, and there they discuss fresh radiograms. This is an excellent feature in the routine, from which all members derive benefit. Further mention must be made of this X-ray department, for it has only just been built, a new one-storied wing jutting out from the main block. It is a most beautiful piece of work, finished in modern fashion with rustless metal fittings and red and grey decorations. The upper story houses the X-ray therapy department. The ground floor contains diagnostic rooms, etc., without stint as to variety of apparatus. One lecture room, before mentioned, has been built, with seating accommodation for about 30 persons. These seats are very comfortable and of the tubular stainless steel type. The whole of two walls consists of illuminated opal screens, on which are hung the films under discussion, easily seen by all. Along the corridor outside the reverse of the screen is used for exhibiting standard abnormalities.

After the discussion, the Professor each day makes a visit of two fresh "stations," and at 9 a.m. gives a clinical lecture. The lecture theatres in Germany are all amphitheatres, with very well sloped seating accommodation. The well of the theatre is of tile and marble, with the necessary fittings for the performance of demonstration operations.

I attended two of these clinical lectures and perceived that Professor Schmieden is a very able teacher. A series of fractures were shown, continued the second day, to demonstrate the varieties and complications of fractures of the tibia and fibula. One case was of pseudo-arthrosis following a compound fracture of the middle of the shaft, and the prevention, causation and treatment of such a condition was most adequately summed up. Plasters are much used, but generally padded, or with a stockinette cover to the skin. Frequently they are split laterally and only the posterior half is retained. For ambulatory purposes, a cork block is incorporated in the plaster as a heel, instead of an iron patten. Massage is given, and the after-treatment is of the "non-Bohler" method. Kirschner wire extension is favoured, with the leg supported in a Braun splint. I have not once seen a Thomas splint since I left England, but I still consider it the most generally useful of any.

Two other interesting cases were shown—a child with a large granulating area following extensive burns and a man with an ulcerating mass in the neck and secondary metastases in the lungs. Physical signs and differential diagnoses were discussed almost "word for word" as one hears on a ward round in Guy's. Lympho-sarcoma was the considered diagnosis in this case. As the attendance at these is so large, the Professor has three or four patients each day in the well, and they examine the cases under his direction.

Operations commence after this lecture is finished, at 10 a.m. They take place in a very large theatre, several cases concurrently, separated by screens. The chief assistants do a considerable amount of the surgery. I watched Professor Schmieden perform a ventricle puncture on a child with hydrocephalus, using the fronto-parietal approach, and then the resection of carcinoma recti. The latter, with spinal anæsthesia, was a perineal excision four weeks after a colostomy. The endothermy knife was used until the extra-peritoneal tissues were reached. Though essentially a rapid and skilful surgeon, the perfect team work which characterised the Kirschner clinic was absent.

(*To be continued next issue.*)

Some Observations on So-called Water-Divining

By G. A. M. Lintott, M.B.

FROM Biblical times up to the present day there have always been certain people who have claimed, rightly or wrongly, to possess the capability of detecting subterranean water. During the last few months this so-called power has received much notoriety in the popular press, which has scarcely enhanced the reputation of the alleged phenomenon, shrouded, as it is already, in an atmosphere savouring not a little of the supernatural. Nevertheless, for a practice such as this to have existed for so many centuries and still to be firmly believed in by its exponents—commonly known as dowsers—at least suggests that there may be an element of truth in their claims. There has been, apparently, little or no scientific inquiry into the matter. This is, perhaps, explainable, for the somewhat spectacular method of elicitation of the phenomenon, together with the web of mystery that surrounds it and the ready opportunity it offers for exploitation by quacks, is apt to divert investigation from a subject which may have been considered hardly respectable. It was decided, therefore, to conduct a careful inquiry into the matter which, it was hoped, would result either in justification of the dowsers' assertions or in the exposure of the whole affair as a fraud.

The investigation originated in, and has subsequently been conducted in, an atmosphere of the profoundest scepticism. Any positive results that might be obtained were to be regarded as capable of explanation on a purely physical basis. Nothing in the nature of the miraculous was to be accepted.

It is necessary, first of all, to explain the manner in which this so-called water-divining is usually carried out in this country. A forked twig is most commonly used. A hazel branch is usually selected, but there is nothing specific in this, and a twig of privet or other suitable shrub may be employed. The length of the limbs of the twig varies according to the personal taste of the user. As a rule they are approximately 16 inches long, the maximum diameter being about that of an ordinary lead pencil. The extremities of the twig are firmly grasped one in each hand, the latter being in the fully supinated position. The apex of the twig is thus held away from the body, its long axis being kept horizontal with the ground. The limbs are held a certain distance apart in order to exert a degree of tension in the muscles of the hands and forearms. The dowser then walks, usually with rather a shuffling gait, over the ground to be investigated. When he passes over subterranean water it is alleged that the twig rotates upwards, the distal end thus describing an arc of a circle.

Another method, though less frequently used than that described above, is for the dowser to use two L-shaped metal rods. The shorter limbs are loosely held, one in each hand, in a position midway between pronation and supination. The arms are held out in front of the body with the two longer limbs of the rods about a foot apart, parallel with one another and horizontal with the ground. In this case it is stated that on passing over water the rods rotate inwards so as to cross one another, returning to their original positions as the holder leaves the water-containing area.

With a view to substantiating or giving the lie to these claims a series of experiments were undertaken in the Physiological Department at Guy's Hospital and out in the country. In the former case an apparatus was constructed so that water might run in a pipe beneath a platform, both without the knowledge and out of sight of the observer. As emphasised above, all the experiments were carried out in a strong spirit of scepticism and under critical observation. Where possible, control experiments were made.

It was essential, in the first place, to determine whether there was any evidence that certain people did possess this power of divining water. Accordingly, a number of persons were provided with twig or rods and asked to see if they could detect water beneath the platform. The flow of water was turned on and off without the observers' knowledge. After a number of people had been tested in this way it became evident that there was no response on anybody's part to water that was not running. With the water in the pipe flowing, people could be roughly divided into three main groups—those who were in no way sensitive to moving water and in whose hands both twig and rods remained completely inert even when standing directly over the pipe; those in whom a definite though slight response was elicited when the flow of water was comparatively large (and in this group the rods seemed to be a more delicate indicator than the twig), and, finally, a small group of persons in whom there seemed to be definite evidence of marked sensitivity to moving water, as shown by an immediate upward movement of the twig or inward rotation of the rods on passing over the pipe in which the

flow was even relatively small. Moreover, people in this group were able to localise the position of the hidden pipe within two or three inches.

Attempts were deliberately made to trap the observers, particularly those of the last group. Thus they were frequently asked to try and localise the pipe when no water was running, when water was running from other taps in the room, etc. It was found, however, that as long as the concentration of the observers remained undisturbed the percentage of errors was extremely low. Further experiments were conducted out of doors, in which sensitive persons unfamiliar with the neighbourhood were required to map out the courses of unseen drains in which water was flowing and also determine the sites of springs the presence and localities of which were unknown to them. Again the consistency and accuracy of the responses were striking features.

From these preliminary experiments it became evident that there might, after all, be more than an element of truth in the dowsers' claims.

If the twig and rods do move in the hands of sensitive persons, and it seems they do, then it is clear that this movement is conveyed to them by the holder. The belief in miraculous evolutions of either is quite unnecessary.

It accordingly became necessary to investigate three main features—firstly, the motor power conveying movement to the twig; secondly, the receptive agent by which the dowser becomes subconsciously aware of the presence of running water; and thirdly, the physical means by which communication is established between the water and the receptor.

In regard to the first factor the following observations shed some light on the initiation of the movement in rods and twig.

If the observer wore moderately thick gloves no response was elicited. When only one hand was gloved then the rod in the contra-lateral hand showed the usual inward deviation, the other remaining stationary.

If thin surgical rubber gloves were worn both rods and twig reacted in the usual manner.

Again, if the short limbs of the rods were held in sockets so that their free movement was permitted but there was no actual contact between them and the observer's hands, no movement occurred.

It must be pointed out that no obvious naked-eye movements could be detected in the dowsers' hands or forearms which might start the indicators moving. However, if his forearms were felt while he was operating a definite increase in the tension of the muscles could be recognised.

It appears then that the motive power conveyed to the twig and rods results from an increased tone which occurs in the muscles of the hands and forearms as the operator passes over flowing water. There is no change of tone detected in these muscles if the necessary indicators are not held. Thus the twig and rods serve a dual purpose. Firstly, by reason of the way in which it is necessary to hold them the muscles of the upper limbs are automatically put in the correct state of tension, and secondly, the movement induced in them by the muscular change invoked in a sensitive person indicates when the observer is standing over water that is moving.

There was no reason to suppose that those of the upper limbs were the only muscles affected. It was found that if a dowser held a rubber bulb in his mouth, biting on it lightly so as to secure the necessary tension, and then walked over the pipe there was a definite increase of tone in the masseter muscles. This, of course, caused a diminution in the volume of the bulb, and, by connecting it to a tambour, a tracing was obtained which showed definitely the point at which the observer passed over the water.

The elucidation of the receptive agent in the body provides much greater difficulty. In an attempt to solve this mystery the following experiments were performed.

Firstly, it was noticed that it was the portion of the observer's body, usually of course, the feet, which was in contact with the ground that was the important factor. It was not until one of these was over the water that any response was obtained. Thus it did not necessarily depend on the twig or rods themselves being held over the water.

The observer was blindfolded to exclude the possibility of any visual reception. This made no difference to the usual response. The nose and ears were occluded in turn, but again without effect.

It had been noticed that experienced dowsers adopted a shuffling or spastic gait, which gave the appearance that they were voluntarily increasing the tone of the muscles in their lower limbs in an attempt, as it were, to tune themselves in for the reception of the stimulus. This was tried, and seemed to produce a more sensitive state. What was of more interest was that if an observer was wheeled or carried over the pipe so that his legs were dangling and muscles flaccid there was no movement of the twig. When the same person was wheeled over the water, while standing on the vehicle, the response was as great as if he had walked along the platform. The same observations were noted also in several different people

out of doors over an area in which moving water was known to exist. The results obtained were exactly the same.

That the feet were not the only means of reception was demonstrated by an observer "walking" across the platform on his knees. When over the water a definite response was obtained. Similarly, a firm hand-grip on a pipe in which water was running increased the tone of the masseter muscles. Again, resting one foot lightly on the pipe caused no response in the twig, but, immediately weight was brought to bear on the foot, thus necessitating contraction of the muscles of the limb, there was the usual upward movement of the indicator.

This apparent necessity for a certain degree of tonic contraction of the muscles in order that a person might be in a sensitive state was borne out by the following experience. An observer who might be classed in the second of the groups described above, having given definite responses with rods on several previous occasions, attempted at a subsequent date to do some further experiments. He had been extremely busy during the preceding week with little sleep and much physical and mental strain, and felt thoroughly "out of sorts." On this occasion he was quite unable to detect the presence of flowing water. His blood pressure was taken, the systolic being 115 m.m. Hg, whereas normally it is about 145 m.m. Hg. He was given ephedrin gr. $\frac{1}{2}$, which had little or no effect on his blood pressure but banished the feeling of lassitude, and he became receptive again.

Another important factor in the reception of the stimulus is the concentration of the observer. Persons in whom the sensitivity to water was well marked made a moderately large percentage of errors when their attention was distracted while they were operating, by sudden unexpected noises or by the platform being placed in a precarious position so that there was imminent risk of their being precipitated on to the floor.

Fatigue seems also to play a definite part. Thus towards the end of an afternoon spent in dowsing the responses were not elicited so easily or so markedly as in the early hours of the same afternoon.

Another interesting observation made was that if the observer, no matter how sensitive, walked on a smooth slippery surface, such as glass, polished metal, etc., there was no reception of the stimulus. That this was due entirely to the effect of the smooth surface and not to any specific property of the metal or glass was shown by interposing the materials between the pipe and the platform, when the normal response was obtained—as it was if the smooth surface was covered with a duster so as to give a grip to the feet. Other substances with a comparatively rough surface, for example, lead, asbestos, sheet rubber, etc., did not damp down the stimulus at all, and, if anything, exaggerated it. Similarly, the wearing of rubber boots had no tendency to abolish the response.

The exact nature of the receptor has not yet been determined. That it is intimately connected with muscle tone and thus with the reflex arc responsible for this seems fairly certain. After all, it was only comparatively recently that the muscle spindles were discovered, and still more so that the function of the carotid sinus as a receptive agent was realised. May it not be then that the human body is possessed of yet another sensitive receptive organ which responds to a stimulus emanating from running water? That the degree of sensitivity of this receptor varies in different individuals is quite in keeping with physiological views.

There remains the third factor—the nature of the communication between the water and the receptor in the body. Up to the present time investigation along these lines has proved fruitless. It is only possible to record various observations that have been made.

An attempt was first made to screen off the physical factor that must emanate from the stream of water. Such substances as lead, glass, brass, aluminium, rubber, asbestos, etc, were interposed between the pipe and the platform. Apart from the effect in the case of smooth surfaces described above, no damping down of the stimulus was noted.

Again, depth did not appear to be a factor Comparatively small springs could be detected at a depth of several hundred feet; in fact, it was found impossible to forecast the depth at which the water was likely to be found. The amount of water present also could not be estimated, although, of course, the width of a spring could be determined.

An air space was no barrier to the passage of the stimulus. An observer walking along a plank arranged over an excavation eight feet in depth was able to elicit a response and accurately to localise a narrow flow of water. Further digging revealed the stream of water, which was a leak through a pond head, in the position indicated.

At present the nature of the stimulus has not been discovered. It is suggested that the running water may give off waves to which some receptor in the body is sensitive. It is felt, however, that whatever the nature of the communication between the water and the dowser may be, it is a

purely physical process, and with further investigation it should be possible to determine its exact nature.

During the past week three observers endowed with the necessary sensitivity and possessed of no special geological knowledge visited a certain site in Sussex and attempted, by means of the hazel twig, to detect an area of subterranean moving water. Each operated entirely independently, accompanied only by an impartial witness. It was very significant that each marked out exactly the same spot in the field, although quite unaware of the site chosen by his colleagues. Later, when the same observers were blindfolded, they identified exactly the same spot. During the course of the next few weeks a trial bore-hole is to be sunk in the selected area, and it will be interesting to see the result. Of course, it would be nice to sink a correspondingly deep bore-hole in an adjacent area in which the twig did not respond. The high cost it would entail prohibits this control experiment. Nevertheless, if a supply of several hundred thousand gallons of water per day is obtained from a well sunk at this point it will at least be suggestive evidence in favour of the genuineness of dowsing. A well sunk on chance, unless it happens to hit a spring, is unlikely to collect anything more than surface water, as so many people know to their cost.

In conclusion it must be stated that this paper simply consists of an account of a preliminary investigation and some original observations on the phenomenon of water-divining, prompted by a discussion at a meeting of the Guy's Physiological Society. No literature on the subject has been consulted, the reason for this being that, in view of the sceptical attitude which has been adopted to the whole affair, it was thought desirable first to undertake experiments which would be untainted by any bias arising from the knowledge of previous observations; thus an opinion could be formed as to whether or not the subject was worth pursuing further.

We consider that undoubtedly it is. Accordingly a further attempt is to be made to identify both the receptor and the nature of the physical communication between moving water and this receptor.

We should be most grateful for any observations, advice or criticism from persons possessed of this sensitivity to water. Quite apart from its practical application, water-divining provides for those capable of performing it a fascinating pastime. Moreover, it seems not unreasonable to assume that the elucidation, should it be achieved, of the mechanism by which the phenomenon is produced may open up a new vista in the study of the human body's reception and response to stimuli.

SUMMARY

1. An investigation was made into the question of so-called water-divining in order to find out if there was any evidence to substantiate the claims made by dowsers that they were able to detect the presence of subterranean water.

2. In our observations it was found that, whereas no person tested could detect the presence of still water, yet there were people who possessed sensitivity to moving water to a varying degree. The persons tested could be classified in three groups :—

i. Those completely insensitive.

ii. Those in whom the sensitivity was present but not marked, and in whom it varied from time to time, being most evident when they were in a state of physical well-being.

iii. Those in whom marked sensitivity was constantly present.

3. The twig and rods simply act as indicators and also as the means whereby the correct state of muscular tension is achieved. This explains why different observers use different thicknesses or strengths of twigs, it simply being the outward expression of a subconscious desire to get the muscular tension to the optimum state in each individual case.

4. Three factors are thought to be concerned in the production of the response—a stimulus, the nature of which is unknown and which emanates from running water; a receptive organ in the body, the sensitivity of which seems to be intimately connected with muscle tone; and lastly, the motor force which results in movement of the indicator used, and this, it appears, is a change of tone in the muscles of the hands and forearms.

5. It is felt that the reception of the stimulus and the production of the response is a subconscious affair concerned with the more primitive centres rather than the cerebral cortex.

6. It is considered that there is sufficient evidence to justify the statement that water-divining is a genuine phenomenon, and further investigation is required for the elucidation of the exact method of its production.

I am greatly indebted to Professor Pembrey for all his helpful advice and criticism and for the time and trouble he has expended in the carrying out of experiments both in the Physiological Department and down in the country. My thanks are also due to Mr. W. J. Ferguson for his help and the numerous observations he has made.

Correspondence

Fees in General Practice

To the Editor of the GAZETTE

SIR,—Discussions such as those on "Fees in General Practice" cannot fail to be of advantage to all concerned. As practices vary so much in character, it would appear difficult to make any hard-and-fast rule. Every man must judge for himself.

Dr. Douthwaite speaks truly when he says that a doctor makes his own market—and there are as many different kinds of "markets" as there are of doctors. That is why there will always be differences of opinion on the subject. Personally, I belong to a generation which was, perhaps, less commercialised than the present. We were taught, and I think taught carefully, to examine our patients thoroughly and to do our best to make a diagnosis so that our treatment might be properly directed. Careful examination is just as necessary to-day, and the means at our disposal are immeasurably greater than they were in the late 'nineties. Our increased knowledge of disease demands that we adopt measures in accordance with that knowledge, both for investigation and treatment. If we take any real interest in our work we shall have "grown up" with all these advances in technique.

I remember in the old days of "Sixpenny Surgeries" in the Borough a doctor who used to charge sixpence extra if he used a stethoscope. For all I know he may not have been the only one. Now it seems to me that one ought to employ every means at one's disposal in investigating cases. The patient wants to know what is the matter with himself, and it is equally important to the doctor if he is to do his job properly. If I do a blood-count, a blood-urea, blood-sugar or fractional test-meal, if I examine a urine or sputum, or screen a dysphagia, I do it because I want to know what is the matter. Naturally I use my judgment as to the necessity or otherwise for any of these special investigations in each case. Although I do no midwifery or surgery, I am a "general practitioner," and neither a "consultant" nor a "consultoid"; but I should hate to be what I believe Dr. Douthwaite once called a "medical shop-walker."

I do not charge any special fees for these special investigations, but my fees as a whole are what might be described as rather above the average, namely, from 7*s.* 6*d.* to £2 2*s.* As Dr. Douthwaite puts it, I have made my own market and find that it pays. Although practising in a small country town and having no hospital appointment, I am sometimes called in to see an occasional case by my professional brethren. In a recent instance I was asked to see the wife of the heir to a well-known title by the family doctor. She started to run a very high temperature when convalescing from an attack of influenza. I could find no physical signs and suggested a blood examination. The doctor thought that if we had to take some blood we had "better call in Dr. X," a G.P.-consultant from a neighbouring town. I persuaded him to let me take some blood, and found that she had a total white count of 18,000, and in the meantime proceeded to culture the blood. I said that a white count of 18,000 on the top of the leucopenia of the influenza looked like a commencing pneumonia. The same night the doctor called in Dr. X, who, because the patient lived in India as a child, said it was probably malaria! Twelve hours later I saw her again in consultation with her doctor, and we found a patch of broncho-pneumonia at the left base. The blood culture was negative. She made an uninterrupted recovery.

What strikes me about many of the later generations of doctors is their unwillingness to accept the responsibilities inseparable from the treatment of serious disease. If the patient is of the working class, he goes into hospital *ek dum*. If he can afford a consultant a consultant is called in. Whether "dichotomy" is more common than is generally supposed I do not know. But I am certain that some form of routine instruction in the conduct of general practice is essential. I was recently asked to answer a questionnaire on Medical Education by a certain Examining Body, and I expressed the opinion that something of the nature of a short post-graduate "apprenticeship" should be compulsory, with recognised G.P. instructors.

Let those who condemn Dr. Douthwaite's views ask themselves whether they are certain that they are right. Personally, I think he is quite sound.

Yours, etc.,

EL HAKIM PASHA.

"Acute Appendicitis"

To the Editor of the GAZETTE

SIR,—In his lecture on "Acute Appendicitis" Mr. W. H. Ogilvie refers to Wilkie as having elaborated the differential diagnosis between inflammatory and obstructive appendicitis, but goes on to say that in practice most of us find the distinction impossible. I would submit that this is a most dangerous teaching (with due deference and respect to the authority and experience of the learned lecturer), particularly to men who will see the cases at their commencement. Wilkie's is indeed a "voice crying in the wilderness." The reason, of course, is that the surgeon does not see the case until a late stage in its development.

In the obstructive type the symptoms are equivocal, particularly in children. There is usually collicky pain in the right iliac fossa of great severity, slight tenderness and rigidity, and very frequently for at least a few hours a normal temperature and pulse rate. In the face of such symptoms the practitioner waits for developments with disastrous results, for perforation and general peritonitis quickly ensue. It is in this stage that the surgeon first sees the case, when the diagnosis is perfectly obvious. I suggest that it is this type of case which accounts very largely for the high mortality of acute appendicitis. The responsibility lies on the general practitioner. He sees the disease at its inception and when the symptoms, which admittedly may be very puzzling, cannot otherwise be explained. He should always bear in mind the possibility of obstructive appendicitis, and insist on immediate operation.

Yours, etc.,
LOUIS F. BECCLE.

2, Park Side,
Bowes Road, N.11.

Biennial Dinner

To the Editor of the GAZETTE

SIR,—It has been decided to hold the Guy's Biennial Dinner at the Connaught Rooms on Friday, October 20th, at 7 o'clock. Mr. Fagge has kindly consented to take the Chair. Circular notices will be sent out to all Guy's men in due course, but I should be grateful if you would publish this letter so that all Guy's men who will be in this country in October may do their best to keep the date free.

Yours, etc.,
GEOFFREY MARSHALL,
Hon. Sec., Guy's Biennial Dinner.

45, Wimpole Street,
W.1.

An Unexpected Result of the Zondek-Aschheim Test

To the Editor of the GAZETTE

SIR,—At this corner of the world civilisation is not lagging, and we pride ourselves on the "up-to-date-ness" of our accessory aids to diagnosis. Recently there was in my hospital a woman with vague colicky pains and amenorrhœa, which caused the fear of an ectopic pregnancy. As there were no other appreciable signs, there occurred the thought of the admirable test (see *Medical Annual*, 1932) of Dr. Zondek and Dr. Aschheim. So I conferred by telephone across the sea with our pathologist, a very enthusiastic and always willing co-operator. He agreed to do the test on condition that the specimen of urine sent was the first of the morning and reached him within an hour of being passed. This needed some staff work, and thus was it arranged. The woman was urged vigorously to hold her water until 8 a.m. A rapid running and intelligent coolie stood by to seize the bottle and catch the 8.10 a.m. ferry. He was given the fare for a motor car at the other side. The urine was delivered to the waiting pathologist and his rabbit (virginal and prepubescent) at 8.55 a.m.

This afternoon the telephone rang and a disconsolate pathologist requested that the specimen should be repeated. I was astonished and inquired the reason.

"Well," said he, "the fact of the matter is this. The specimen of urine was all right, but on opening the rabbit to-day I found that the damn fool of a 'look-see' coolie had given me a male!"

Yours, etc.,
P. F. S. COURT.

Hong-Kong.

"Mock Trials" and the Hospital Funds

To the Editor of the GAZETTE

SIR,—I notice that a series of Mock Trials are being held in London with the object of benefitting the King Edward Hospital Fund. Over a year ago, when the Hospital Debating Society was being revived, I suggested that a Mock Trial included in the programme of the Society would prove popular, and, although the Secretary and the President at that time thought the idea good, nothing further was done in the matter.

Now that the Society has definitely established itself as part of the social life of the Hospital, I again advance the suggestion.

In these times of financial stress the Hospital is likely to welcome any slight addition to its funds,

and I suggest that the Society might, for the occasion, depart from its usual custom of providing free entertainment and impose a small charge for the privilege of attending, while making the evening an "open" one. I venture to think, having in mind the popularity of such an event at school, that, provided the "case" were of sufficient interest, a Mock Trial would prove as big an attraction as a concert, and would require less organisation.

The past session has shown that there are at the Hospital a number of people who, to judge by their disquisitions, are as suited to the Legal as to the Medical profession, and who, probably, would be happy to take part, while minor characters invariably provide an outlet for the display of histrionic ability. I have no doubt that there are also some acquainted with members of the legal profession who would be willing to give technical aid, if necessary.

The question of finance would, of course, be a subject for discussion by the committee of the Society, but I feel sure that the expense of producing such an entertainment would be small.

Yours, etc.,
STANLEY W. WRIGHT.

Catford,
S.E.6.

The Nurses' Debating Society

THAT the interests of medical men and women are confined almost entirely to the boundaries of their own profession is a criticism directed, we feel, more especially against the latter. Supporters of this view, who seem to imagine the Nurses' Home to be a sheltered community set "far from the madding crowd" in some secluded backwater, would have been astonished had they attended the meeting of the Debating Society held there on June 12th to discover how those quiet waters may be ruffled by the tide of current events.

The subject before the House was announced by Sister SHELDON, who took the Chair: "That in the interests of the community the gambling instinct should be repressed."

Staff-Midwife TOLLIT, rising to propose the motion, declared the subject to be one of outstanding importance, and one which involved great moral issues. Gambling, she declared, is wrong in both its source and its consequence. Based as it is on the lust for avarice, it lacks creative instinct, and is therefore anti-social. Nor does its evil effect lie only in its excess. From the wealthy speculator on 'Change to the office boy who stakes his modest sixpence in a draw, all those who gamble are acting against the interests of the community. On the assumption that "experience is profounder than argument," the speaker quoted from the findings of the recent Commission on Gambling to prove that the distribution of money by chance is contrary to all laws of economics, and that the gambling instinct, if indulged in on the wholesale scale as practised in the world to-day, will ultimately lead to national decadence.

Sister FLORENCE TAYLOR led the opposition by declaring that instincts can only be repressed at serious loss to both mental and physical health. The psychological conflict ensuring from the repression of so strong an instinct as gambling would be far more harmful than the most awful consequences of its abuse suggested by the proposer of the motion. The State has no right to interfere with personal freedom and liberty in this or any other matter. The provision of excitement and thrill for a modest shilling "each way" was, she held, exceedingly cheap at the price. Even patients who have had the opportunity of betting which leech would drop off them first have been noticeably better for their little gamble! In conclusion, to prove the weight of public opinion behind her sentiments, the speaker passed around for view an interesting exhibit—a receipt from Matron for the sum of £24 10s. sent to the Cosmo Bonsor fund as a result of the recent sweepstake on the Derby which she had so successfully run in the Nurses' Home!

Pupil-Midwife SANDS seconding the proposal, believed the instinct of gambling to be common to all humanity, and to be the basis of that spirit of adventure which has inspired men from Columbus to Mollison, but she held that any expression of this spirit which involved a man's earnings or income was wrong. Instinct so expressed has become an obscession, and as such is a disease to be checked and treated by strong measures.

Pupil-Midwife RIDER then seconded the leader of the opposition by declaring that all life is a gamble. The man who sets out from his home for the office each morning is gambling as to whether he will return safely. The surgeon is making, by the operation he performs, a gamble. What is the general vote but backing men instead of horses? In conclusion, she quoted Rudyard Kipling's sentiments expressed in his poem "If":—

"If you can make one heap of all your winnings
And risk it on one turn of pitch-and-toss,
And lose, and start again at your beginnings,
And never breathe a word about your loss:
. . . You'll be a Man, my son!"

The subject was then thrown open to debate. Many points of view both in support of, and in opposition to, the motion were given by various speakers. Sister HILDA GRATION deplored the recent sweepstake organised by her colleague, and painted a lurid picture of the temporary decline of the Revelstoke Hall from a seat of learning to a den of gambling!

Unfortunately, the number and range of speeches were seriously limited by the shortage of time, but an interesting debate was concluded by a general vote, in which the motion was lost by 12 votes to 48.

M. R.

Hospital Information, etc.

Pass List

L.D.S., R.C.S. (Eng.).

FIRST PROFESSIONAL EXAMINATION.

PART I.

Dental Mechanics.

R. E. Goodrich
D. E. Holdway
O. B. Brears
D. C. J. Constable
D. W. Friendship
E. Dunstan
M. M. M. Hillier
R. F. P. Piper
F. A. Rogers
E. R. L. Shrimpton
R. S. Wells
C. A. Styer
R. H. C. Ballanff
E. B. Briault
N. L. Forrester
C. H. Greaves
W. F. Leuner
V. Rattee
A. G. Richmond
J. F. M. Sampson
J. F. A. Smyth

PART II.

Dental Metallurgy.

D. E. Holdway
G. H. Kramer
R. S. Cook
G. W. Lawrence
O. E. Jenkins
C. A. Styer
H. F. Dornhorst
E. A. Beach

PART IIIa.

Anatomy and Physiology.

N. L. Forrester
R. F. P. Piper
E. du Toit
M. E. Gascoine
D. A. Godfrey
G. A. B. Hoby
D. A. Ibbetson
D. W. Macfarlane
D. W. Friendship
A. O. Chick
W. N. Forrest
W. M. Glen
W. H. Groom
R. G. Kett
J. M. Lowry
R. S. Pook

PART IIIb

Dental Anatomy and Physiology

W. G. C. Dickson
C. M. Beales
H. Cowen
A. G. Heberlein
H. G. Hexter
W. E. Nelson
H. G. Smith
C. L. Wren
R. O. Barber
J. C. Carr
C B. G. Elstob
R. L. V. Henderson
R. G. Hunt
J. A. Rowlett
J. W. Turner

BRITISH MEDICAL ASSOCIATION PRIZES

For Short Clinical Papers by Students and Newly Qualified Practitioners, 1932-33.

GROUP IX.

GUY'S HOSPITAL AND LONDON HOSPITAL.

C. A. Clarke.

Speciality

TEA WITHOUT TANNIN

AN INVITATION TO OUR READERS

EVERYBODY with a rudimentary knowledge of medical science knows the harm that is caused by the excessive tannin in ordinary teas. In fact, for a time it was considered madness for a dyspeptic case to take tea at all. Then a discovery was made: that all good teas grown in China contain at least 50 per cent. less tannin than teas grown elsewhere. It was proved that China tea is the one tea which all sufferers from gastric and kindred troubles can freely enjoy with absolute safety. Nowadays the market is flooded with so-called "health" teas, all of which claim to have been "made safe."

"The Doctor's China Tea," which has been on the market for over a quarter of a century, is just pure, unadulterated China tea of the choicest grade. It does not need to be "made safe." It *is* safe, being entirely and naturally free from all excess tannin and indigestible impurities. It is now regularly prescribed by the medical profession in cases of dyspepsia and pregnancy.

On the front page of this issue will be found a special introductory offer to "The Doctor's China Tea," and our readers are invited to avail themselves of it.

Papers by Guy's Men

N. L. Eckhoff. Infections of the hand. *Lancet*, 1933, i, 1276.

A E. Rowlett. Realities, progress and the dental citizen. *B. Dent. J.*, 1933, liv, 625.

Appointment

G. A. Dingemans, L.S.A., Royal Alexandra Hospital for Sick Children, Dyke Road, Brighton.

Change of Address

Dr. S. J. Roberts, 6, New Cavendish Street, W.1. *Langham* 1828.

Dr. H. N. Garrus, Deringwood, Mount Road, Hayes, Middlesex.

EDS. { M. J. McA. C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

DURING the past fortnight, from ward sluice to the dinner tables of the Staff, one subject has been on all lips. Those who have left this peaceful place, who probably only remember two, may wonder what is this third topic of Hospital conversation. For those who cannot see them it is our duty to explain what everyone here means by "the notices." One evening they were not—the Park wore its customary air of dignity and charm. The next morning they definitely were—four of them, anchored in concrete and on their white expanse of thick board, 3 feet by 1 foot, "THIS LAWN IS STRICTLY RESERVED FOR NURSES." Two notices guard the plot in front of the Home and Massage Block and two the plot in front of the Baby Ward. They have met with almost unanimous disapproval, voiced in many ways—the Nurses in their newly-instituted Council, the Witanagemot of their feudal system, the Residents at the House Committee. Mock notices were posted up, and even the existing ones defiled, but we dare not print their wording. Authority may consider this nastiness, but still nastiness may be provoked by Naziness.

It cannot be the boards themselves which have caused this outbreak. They are large, but the colour is not offensive, and they compare favourably with those seen in most public recreation grounds, racecourses and zoological gardens. It is more probably the attitude they reveal, their position or their significance. Perhaps it is felt that this habit will spread and that Guy's Park will be made to look like a public park. Though it is unlikely under the present régime that we shall see notices that dogs of all kinds are not allowed, perhaps it is feared that bye-laws will appear prohibiting public meetings, reviews of troops, the driving of goat chaises, the sailing of kites or sitting on the seats in a lousy and verminous condition!

It is thought that in front of the Home the notices are unnecessary, for there is a well-observed radition that this lawn is used only by the nursing staff. There they have always sat in peace, and may do still provided that they wear their hats. One can sympathise with those of them who now object to sitting behind notices like animals in a Whipsnade compound. It is the enclosure in front of the Baby Ward that is most resented. Here one used to see, besides the cots containing male and female patients, patients enjoying the sun, the wives of the Staff darning socks, their children frolicking on the grass beside them, and occasionally even those who work seeking relaxation—a happy, unoffensive scene. True, lately a few convalescing nurses and students have been seen in conversation on this plot. Surely it cannot be this which has made the face of authority change from what should be the benevolent smile of an Uncle Lansbury to the shocked grimace of an Auntie Dora.

It is a pity that several varying reports instead of one official reason have been given for the need of these notices, for it gives the impression that the real one is too sinister for publication. For instance, it was said that the noise of those using this plot disturbed the Baby Ward, but surely no one who has heard what the children can do unaided can feel that this is a satisfactory explanation. It was also said that the notices were to keep off the patients' surplus relatives, but they are only here three hours a week, and why then are they to be allowed to park on what must now be called the students' lawn? We are told that similar notices, admittedly smaller, were there in the past, but surely that was in the Dark Ages of the Doctor's top hat, the Nurse's bun, the wickedness of the Empire and the recklessness of the barn dance. With that age, and in their age, they rotted. Why, then, this revival in enlarged form in these enlightened days? If there were abuses, would not a typewritten circular have sufficed and also explained them? A notice has been issued recently prohibiting motor cars in the Front Quad at night, but wooden placards were not thought necessary here.

These, then, are the grouses we hear. Personally we are puzzled. Is this a social or a sexual distinction? Is this reservation only for nurses or only for ladies, for during the past fortnight female patients, almoners and massage students have been allowed in the compounds without arrest. Even Sisters in mufti have been willing to risk being mistaken for nurses. We have, however, observed only one male, and he was very tiny. Will the male attendants from the strong room be allowed to exercise their right as nurses by sitting within this hallowed acre? We feel that they should be very welcome.

THE House Committee is to be congratulated on the neat little volume it has recently circulated to every House-Officer. Not only does it contain the necessary Standing Orders for every house appointment, but it also gives all those little details about procedure which were previously so slowly acquired, either under the watching scrutiny and guidance of the Sisters or from the constant questioning of one's predecessors. It solves many of those little quandaries that occur in institutional practice. When, for example, a City Police Ambulance arrives at the Surgery, deposits its burden and leaves, never to return, it may be difficult to know how best to proceed with the further removal of the patient. To consult this little book is to know exactly what to do, though, perhaps, it will not always be wise to keep to the strict letter of the instructions and dispatch the patient home in a hand-litter. Be it how to arrange for a pulmonary embolectomy, a blood transfusion, or even when and where to seek for the refreshments that are nightly provided for House-Officers, this book will give all the necessary guidance. A good index makes a quick reference easy.

There are still some regrettable anachronisms, especially among the Standing Orders, but now that such a high standard of useful and reliable information has been set up these cannot escape revision long. Perhaps in a new edition we may be told how to "open the strong-room." The inclusion of dietetic details is an attractive feature. It might, perhaps, be carried a little further, and a fuller list of the composition of common foods, besides Brazil nuts, included. Then truly this little handbook will become a real *vade mecum*.

THE retirement of Mr. Williamson, Pharmacist to the Hospital, whose resignation, after 30 years of service, was accepted on June 12th, will be regarded as a matter for regret by the many who had come to know him and to appreciate the value of his work. Mr. Williamson entered the service of the Hospital in 1903 and was appointed Head Pharmacist in 1916. Under his direction the Dispensary has become one of the most efficient of the Hospital Departments, and one of the few which are able to show an annual profit. While working in an atmosphere of apparent chaos, he was able daily to cope with a prodigious number of prescriptions, and to meet most of the awkward demands made upon him at short notice. His quiet manner, and his tactful way of pointing out the lethal nature of a too ambitious prescription, will be remembered gratefully by most House-Officers.

Mr. Williamson, affectionately known as "Lord Lysol," was well known to the majority of Guy's men and nurses, most of whom have received instruction at his classes in Practical Pharmacy and learnt the fine points in the art of pill-rolling, if nothing else. It is felt that many may feel inclined to show their appreciation to him by subscribing to the testimonial which is being organised by Mr. Beale, of the Superintendent's Office.

The Hospital will keenly feel the loss of a man who, in the course of his long service, had come to be regarded, like so many of the mixtures presented to him, as indispensable.

Erythema Nodosum

A Clinical Lecture delivered at Guy's Hospital, by L. Forman, Esq., M.D.

GENTLEMEN,—It has been recognised for some 65 years, since Trousseau's lectures, that erythema nodosum is but a skin manifestation of a systemic infection. I wouid like to draw your attention to comparatively recent work on erythema nodosum as a manifestation of a tuberculous infection.

The appearance of erythema nodosum is sufficiently characteristic. The rash is usually confined to the legs, the tender red nodes varying in size from a pea to a five-shilling piece to be found particularly on the shins. In more severe cases nodules appear on the thighs, forearms, and even the face and scalp. The site of election is over bony surfaces, *e.g.*, the ulna, the forehead and malar bones.

As the acute inflammatory process subsides the nodes lose their bright red colour, showing the

changes of a fading bruise, leaving a stain over which the skin desquamates.

The histology of the node shows that in the early stages, *i.e.*, up to two days, there is an acute inflammatory change in the medium-sized arteries of the subcutis, with a proliferation of the intima and thrombosis. Around the vessel is a dense polymorpho-nuclear infiltration, which, after seven days, is replaced by endothelial and lymphocytic cells. The adjacent fat undergoes some necrosis and is absorbed by large endothelial cells, which form giant cells.

In the differential diagnosis one must consider erythema multiforme and erythema induratum, a Bazin's disease.

In erythema multiforme, circular erythematous patches are present on the face and backs of the hands and occasionally on the legs. They are never infiltrated or tender, and show a tendency to blister in the centre.

In erythema induratum, or Bazin's disease, you will remember that the infiltration is not so red as in erythema nodosum, and is usually situated on the lower third of the calf.

Direct search for a causal organism in excised portions of a nodule of erythema nodosum have been disappointing. The number of positive results are few. Demme in 1880 claimed to have discovered a bacillus; Rosenow claimed to have isolated a diphtheroid organism which at various stages resembled a streptococcus. Landouzy in 1913 stated that he had found the tubercle bacillus in sections.

Last year Boon and Strauss described an organism which they included in the corynal bacterium group, showing coccoid and bacillary forms. This organism could be seen in sections of a node and could be cultured. Inoculation of a culture into the skin of a rabbit produced an inflammatory lesion, but histologically, in my opinion, not similar to erythema nodosum.

Thus direct investigation of the nodule suggests that it is due to the action of a soluble toxin on sensitised tissue, but no indication is given as to its nature.

The disease occurs at any age between two and 25 years, with its greatest incidence between the ages of eight and 18 years. There is sometimes a prolonged period of debility, more often, perhaps, an indefinite malaise, and vague pains in the limbs, with some anæmia, before the appearance of the rash. The patient then becomes pyrexial, up to 101°, with or without sore throat, and the nodes appear from the second to 14th day of fever. In many cases, however, the nodes are the first sign of the disease. The patient may have been vaguely off colour for a few days and the nodes then noticed showing through the stocking or because they are tender.

The number of nodes do not always bear relation to the severity of the general febrile reaction. Occasionally a case with a sustained temperature and no physical signs in which the diagnosis is in doubt may eventually show a few small nodules on the limbs.

An interesting prodromal sign in 10 to 40 per cent. of cases (Odery Symes) is the appearance of phlyctenulæ on the conjunctiva. They are small, clear elevations, usually appearing close to the junction of the cornea to the sclerotic, with a leash of vessels running to angular margins of the eye. They consist of collections of epitheloid cells, and I would remind you that they have often been regarded in the past as scrofulous in nature.

Trousseau thought that erythema nodosum was a specific infection, perhaps allied to acute rheumatism. This idea has been favoured by Lendon, in Australia, and Odery Symes in this country. Symes claims that erythema nodosum fulfils the desidera of an acute specific fever in that :—

1. It is contagious.
2. Epidemics occur.
3. There is a definite age incidence.
4. Seasonal incidence.
5. It runs a definite course, with prodromata and rash.
6. There is immunity following one attack.

There is evidence suggesting that the disease is contagious. Symes reports the cases of two sisters who both developed erythema nodosum—one, a medical student, on March 20th, and the other on March 22nd. There could be no doubt that they were infected from some common source, for the medical student had been suffering from an attack of measles from March 3rd to March 17th and had been separated from her sister. The medical student first returned to her hospital work about March 27th, long before her nodes had disappeared. On April 8th a nurse working in the ward with this student developed pains in the limbs with fever, and the erythema nodosum rash appeared on April 12th. The night nurse of the same ward had a sore throat about April 5th, and after a period of indefinite malaise developed fever and arthritis on May 2nd and erythema nodosum on May 8th.

Epidemics in schools and isolated communities have been reported in this country and in Norway. Fifty cases were reported in Wales occurring during a period of five weeks, in August, 1920, all from a small area of three streets. There was a febrile disturbance with the characteristic eruption on the legs, face and neck. The ages of the patients were between 12 and 20 years.

That there is a definite course to the disease is doubtful. Thus the time between the fever and the appearance of the nodes varies from two to

14 days. The seasonal incidence does not seem to be definite. In some series of cases the disease appears mainly in spring and autumn, but in others at all times of the year. Of course, the end of the winter is a favourite time for a number of infections, particularly of the naso-pharynx, to appear. Again, I should like to instance the fact that lichen scrofulosorum, which is definitely a tuberculous skin lesion, very often clears up in summer and recurs in winter.

Most cases of erythema nodosum do not recur, but there have been many instances of repeated attacks in the same patient, *e.g.*, as many as seven in one woman, from the age of 18 years to 40 years. It would seem, therefore, that there are several objections to including all cases of erythema nodosum under the conception of its being a specific disease produced by the same virus or organism.

The rheumatic theory has held pride of place in text-book descriptions of the disease. McKenzie, at the end of the last century, was one of the supporters of this view. He stressed the frequent sore throats and the muscle pains and described a definite association in 15 per cent. of cases of erythema nodosum with acute rheumatism.

That erythema nodosum does occur with true rheumatic fever is certain, but the association is rare. One must remember, too, that a streptococcal infection may cause a recurrence of acute rheumatism in a rheumatic subject. In fever hospitals, the occurrence of erythema nodosum after follicular tonsillitis and scarlet fever is well recognised.

On the Continent for some years erythema nodosum has been regarded as a manifestation of tuberculosis. My attention was directed to this aspect of the disease by two fatal cases of tuberculosis following erythema nodosum. These occurred among the twenty odd cases of erythema nodosum which came up to Skin Out-patients during the past two years.

In Scandinavia this complication of erythema nodosum is often seen, so much so that one writer has advised insurance companies not to accept proposals from individuals who have had an attack until four years have elapsed.

I will go into the evidence favouring the tuberculous theory. The points for discussion are :—

1. Skin reactions to tuberculin.
2. The discovery that cases of erythema nodosum have been in contact with individuals with open tuberculosis, *i.e.*, with bacilli in the sputum.
3. Radiological findings.
4. The discovery of the tubercle bacillus in the sputum in some cases of erythema nodosum.
5. After-histories of patients.

Koch's old tuberculin is used to carry out the skin reactions. It contains products of growth of the tubercle bacillus in glycerin veal broth, as well as products of disintegration of the bacilli. The method of choice is the intradermal injection of varying strengths of 1/10,000 to 1/50. In normals, that is to say in individuals free from evidence of tuberculosis clinically or radiologically, the incidence of positive reactions (D'Arcy Hart) is :—

Age of Normal.	*Dilution of Tuberculin used.*	*Percentage Positive.*
0— 2 years	1—1,000	6.5 per cent.
3— 5 „	1—1,000	17 „
6—10 „	1—1,000	30 „
11—20 „	1—1,000	60 „

In various groups of cases of erythema nodosum, which you will remember usually occurs between the ages of 8—18 years, positive tuberculin reactions up to 95 per cent. have been found. In a series of 18 cases at Out-patients tested with tuberculin 1/5,000, a positive reaction was found in 90 per cent.

Wallgren, in an epidemic of 18 cases of erythema nodosum in a girls' school, average age 10 years, found all to be tuberculin positive. According to Ranke, when a child is brought into contact with a case of open tuberculosis, after about six weeks an active skin allergy to tuberculin develops.

There are, however, certain cases of erythema nodosum who are tuberculin-negative and remain so. The absence of a reaction to strong concentrations of tuberculin, particularly in children and young adults, without evidence of actue or widespread tuberculosis, is strong evidence that there is no tuberculous focus present. It is agreed that a positive skin test in the first few years of life indicates the presence of an active tuberculous lesion which, because of its tendency to spread, must be regarded seriously.

It might be interesting to recount a case described by Collis of erythema nodosum following the injection of tuberculin. It was a girl, aged 11, with a tuberculous father and sister. She was admitted for investigation as an early tuberculous case.

The X-ray of the chest and clinical examination was negative. She was given .005 c.cs. of old tuberculin subcutaneously. There was an immediate reaction, the temperature rising to 102° F. and kept up for 14 days. On the eighth day of fever, erythema nodosum appeared on the legs. After the appearance of the rash she rapidly improved. The experiment was repeated four weeks later. An eruption came out on the legs immediately, indistinguishable from erythema nodosum. There was no rise of temperature or general reaction.

Epidemics of this disease have been quoted as evidence of the infectious nature of a specific causal organism. However, some of these epi-

demics, in schools, for example, have been found to be associated with a case of open tuberculosis.

Radiological Evidence.—Many cases of erythema nodosum show increase of root shadows, up to definitely pathological enlargement of root glands, with infiltration of the lungs. In a series of cases of erythema nodosum Wallgren found the following results :—

X-Ray Appearances.	*Number of Cases.*	*Tuberculin Reactions.*
No enlargement of roots	16	Positive in all.
Moderate enlargement of roots	8	,, ,,
Gross enlargement of roots	13	,, ,,

One case at Skin Out-patients, a boy of 11 years, was seen in October, 1931. There was a history of tuberculosis in the family. He had felt unwell for a week with pains in the thighs, but no sore throat. Erythema nodosum was present with an unusual number of nodules on the calves. The tuberculin reaction to 1/5,000 was positive.

He gave a negative reaction to the intradermal injection of streptococcal vaccine; when seen two months later he looked pale and ill. X-ray showed definite infiltration of the right lung, which has since slowly absorbed, leaving heavy root shadows. Examination of the stomach washouts was carried out by Dr. Close. He reported several acid-fast bacilli, but inoculation into a guinea-pig was negative.

Collis quotes cases of two girls, 3½ and 5½ years, who had an attack of erythema nodosum within a month of each other. Both had failed to thrive for about 16 months before the attack and had been feverish, one three days and the other a week before the nodes appeared. The mother was found to be an active tuberculous subject.

The Mantoux test in these children, using tuberculin 1/1,000, was strongly positive. This was significant, as one child was only three years old. Both children on X-ray examination showed definite signs of tuberculosis of the lungs. Centrifugalised sediment from the stomach washouts of both children, when injected into guinea-pigs, produced tuberculosis in them. The throat cultures of both children showed no hæmolytic streptococci or other abnormal organisms, and intradermal injections of hæmolytic streptococcal endotoxin were negative.

The examination of the sputum of some cases of erythema nodosum has been of importance, suggesting a mode of spread. Children are reluctant to expectorate sputum, so that it has to be recovered by stomach washout. The technique is as follows :—

Three grs. of pot. iod. is given in a mixture three times a day for three days before the test is made. In the morning, before breakfast, the child is encouraged to cough over a period of 20 minutes, and is then given 200 c.cs. of distilled water to swallow. A Ryle's tube is passed and the stomach contents aspirated. After being centrifuged, the deposit is examined for acid-fast bacilli, cultured, and also injected into a guinea-pig

Collis quotes three cases of erythema nodosum where tubercle bacilli were found in the sputum. Wallgren found tubercle bacilli in the sputum of 17 patients in a group of 37 cases of erythema nodosum, all of which had a positive Mantoux, and similar results have been recorded by other observers.

I have not been able to find any reference to a positive sputum in a case of erythema nodosum with a negative Mantoux test.

As would be expected, a higher proportion of positive sputum was found in cases showing a definite increase of hilar shadows, but it is important to remember that tubercle bacilli have been found with a completely negative X-ray examination.

The above points are co-ordinated by Ranke as follows :—

" After infection with the tubercle bacillus there is no development of hypersensitiveness up to 2-10 weeks.

" Complete recovery may occur, without the development of allergy to the tubercle bacillus or its products, or the condition may progress to the so-called secondary tuberculous stage. This is characterised by :—

Tuberculin sensitisation of the skin.
Fever, pallor, etc.
X-ray—enlarged hilar glands and increased root shadows.
Focal reactions in the lungs.
'Paratuberculous' lesions: Erythema nodosum, phyletenulæ, pleurisy, benign infiltration of the lung.

The tuberculous condition may heal or may progress beyond the secondary stage, the lymph gland defences giving way with spread in the lung, or generalised tuberculosis.

Of course, recovery usually occurs in the secondary stage with the development of a high grade of immunity. If re-infection then takes place, the disease is localised to the lung and produces the adult type of phthisis, characterised by slow spread, fibrotic response, etc."

The proportion of cases of erythema nodosum which are tuberculous seems to vary in different localities. Apparently they are more common in Scandinavia than in this country.

The points to be considered in differentiating the tuberculous cases are in the history, the presence of repeated sore throats, and the association of the rash with one of these. The

presence of tuberculosis in the family should be carefully inquired for, and reference to the Tuberculosis Office of the district for any information might be helpful. The eruption is said to be much more profuse in the tuberculous type, but the nodules are smaller.

After an attack, a prolonged period of debility and anæmia is suggestive of a tuberculous toxæmia. Further, after the age of 20, in town dwellers, tuberculosis as a cause of erythema nodosum becomes unlikely.

In all cases a complete investigation should be carried out on the lines suggested, together with careful physical examination, X-ray of the lungs, and examinations of the sputum. Further, all cases should be watched for at least six months after the attack, with repeated X-ray examinations of the chest.

From Germany—Visits to some Surgical Clinics

By D. W. C. Northfield, Esq., F.R.C.S.

(*Concluded.*)

KLINIK PROFESSOR KIRSCHNER, TUBINGEN

TUBINGEN is a most beautiful little town, with a large university of some 4,000 students. It is quite away from the main railway line, 40 miles south-east from Stuttgart, situated on the banks of the Neckar and surrounded by lovely wooded hills. The houses rise steeply from the river on the slope of a hill, with the University and Klinik buildings interspersed. With a magnificent view of the river and town is the old castle, the remains of which are now used in part as a College and in part as a museum commemorating Hoppe-Seyler, who worked here for many years.

The surgical clinic totals some 250 beds, but in the new building now being erected there will be accommodation for over 300. Most mornings of the week Professor Kirschner gives a clinical lecture to students at 7 a.m. ! and starts operations at 8 a.m. Other mornings operations commence at 7 a.m. The list completed, a ward round may be made, consisting of the "Chef" and his assistants and residents. Students are not present, nor are they usually present at operations unless a demonstration is being given.

Spinal anæsthesia is used almost exclusively for abdominal and lower limb operations, and locals and gas and oxygen supplemented by ether where necessary for the remainder. A special technique for spinal anæsthesia has been evolved by Professor Kirschner, of which the following are the details. The puncture is made between L1 and 2 or L2 and 3, and 20 c.c. of cerebro-spinal fluid are allowed to escape and are replaced by a slightly less quantity of air. The anæsthetic solution is injected, some 2.5 c.c. of dextrin solution of Pantocain, and the patient gently jogged to ensure its progress along the subarachnoid space. Three minutes is allowed to elapse without the removal of the needle, and, if necessary, further solution may then be injected. The injection takes place with the patient inverted about 20°, head lower than feet, and this position is maintained throughout the operation and for a few hours in bed afterwards. By this method a bubble of air is introduced, confined to the caudal part of the subarachnoid space, extending a variable distance along the cord depending upon the amount of cerebro-spinal fluid removed. The solution sinks through this space to the level of the fluid; this fluid-air level has been determined by X-rays during the development of the technique. With the special double-barrelled syringe used, the method is very simple and seems to have much quicker results than the usual one. In abdominal operations the spinal anæsthesia is supplemented by the infiltration of sub-peritoneal tissue and peri-cæliac spaces with further local anæsthetic solution, to diminish post-operative pain. The solution used is a mixture of Novocaine and Percaine, combining the rapid effect of the former with the more lasting property of the latter.

My first morning's attendance, when the list started at 7 a.m., I watched three operations, and subsequently attended a "visite" to the wards. The first case was a gall bladder, approached through a modified Kocher incision, oblique division of rectus and vertical incision of the peritoneum, a very wide exposure being obtained and the spinal providing excellent relaxation and quiet breathing. A large mucocele was present, and an orthodox cholecystectomy was performed, starting with the isolation of the cystic duct. Prior to dissecting the gall bladder from the liver, the bed was infiltrated with "local," to lessen post-operative pain. The next case was a laparotomy for carcinoma ventriculi. This was hopelessly inoperable and only an enterostomy was performed. The last patient, a man, had a very large parenchymatous goitre, the injection for which was given by an assistant during the

termination of the previous operation, this arrangement holding good for all cases. A collar incision—rather higher and less curved than we are accustomed to seeing used—was made, and the fascia and thinned-out muscles divided transversely. A further infiltration with local was made, and then a very careful and bloodless dissection with the knife allowed dislocation of the gland. A large wedge-resection was made of each lobe, a tube drain inserted, and the wound closed with clips. Although not effected very rapidly, yet the technique was excellent, and all movements were most deft and purposeful.

During the round I saw many fractures in various types of extension and all kinds of general surgical cases. One most instructive radiogram was shown me. This was of a knee joint. Air had been introduced into the cavity, and this contrasting medium demonstrated most beautifully a torn medial meniscus. This method of visualising intra-articular structures has only recently been described by Professor Kirschner, and seems simple and with many valuable applications.

On the subsequent two mornings that I stayed in Tubingen very extensive lists were completed, the smaller operations being performed concurrently by assistants in other theatres. I will describe only the more interesting cases, for 12 to 15 ones of varying magnitude were common occurrences.

The Professor did a partial gastrectomy for an occluding duodenal ulcer in an emaciated woman of 50. There were no snags, unfortunately, and the resection was gently and rapidly concluded with a minimum loss of blood after the Mayo method. Gastrectomy is the operation of choice here for peptic ulceration. Next came a case of malunited fracture of the tibia and fibula, at junction of middle and lower thirds. There was bony cross-union, considerable deformity, and overlap of $1\frac{1}{2}$ inches. A fearsome-looking task! After the application of a tourniquet, the fibula was cut down upon and a simple osteotomy performed at site of malunion. Through a long, curved, anterior incision, the tibia was exposed and an oblique osteotomy performed, with division of the cross union. Excess bone was removed from the projecting upper fragment and adequate mobilisation obtained. The wound was closed and wire extension obtained from the os calcis. The patient was then transferred to the fracture bed, which had been brought into the theatre. In all the clinics I have visited the practice of bringing the bed into the theatre is usual, and seems a very admirable one. Gas and oxygen, combined with local anæsthesia, was used for a radical excision of the breast for a large carcinoma. After the usual procedure of lifting skin flaps, the Professor proceeded from the axilla downward and forwards. The diathermy knife was used for removing the muscles and breast. This operation was not so radical in its removal of fascia, etc., as is practised in England.

Fortunately, an emergency operation was forthcoming—an acute obstruction in a man of about 60 years. Here the high spinal demonstrated its value, and on opening the peritoneum an enormously distended loop of sigmoid colon presented—a noble example of volvulus. The mesocolon was indurated and narrowed from previous inflammation, and typical anti-clockwise rotation had occurred, the proximal bowel passing behind the distal. After untwisting the loop, the contents of fluid and gas were spontaneously voided per anum. The first stage of a Paul's resection was performed, suture of the limbs of this large loop which was left outside the abdomen, to be opened subsequently. The pulse was steady around 100, and I learnt the next day that the patient was progressing satisfactorily.

Each day that I stayed in Tubingen I was more deeply impressed by the remarkably high standard of the team work. There was never a hitch, either in sequence of patients nor during the operation itself; each morning's work was a delight to watch.

I was very glad to have the opportunity of seeing the manipulation of two fractures, both of the shaft of the humerus. These were also performed under local anæsthesia, not after the Bohler method, but what they describe as "cross-section anæsthesia." Through two diametrically opposed skin punctures, all the tissues down to bone at the site of fracture are infiltrated with solution by a series of oblique thrusts. Thus a cross-section of completely anæsthetic tissue is obtained. In contrast to my experience in Vienna, absolute anæsthesia resulted with good relaxation. This method of anæsthetising the upper limb is also used in place of a brachial plexus-block. Reduction was obtained by traction with slings and pulleys and manipulation under the fluorescent screen. Position was maintained by a plaster, with the arm in the "aeroplane" position. A special room is provided for fracture work, complete with table, frame, pulleys and weights, for traction in every direction conceivable. The reduction is checked by screening with a most mobile and compact X-ray unit, which never seems hampered by an apparently inaccessible position of the limb. The plasters are slabs between protecting layers of flannel, bandaged firmly in position. Elaborate fracture beds are available. These have a square-section metal rail attached

to the posts each side, below the level of the mattress. To these rails arms can be fitted in any position to carry pulleys, etc. Such a bed costs about 400 M. (in the neighbourhood of £30), and there are very many in use. The treatment of fractures in this clinic certainly vies with Bohler's for pride of place in efficiency, and a comparison of methods is most interesting.

A novel piece of apparatus has been devised by Professor Kirschner for the introduction of a local anæsthetic. It is built on generous lines, and reminiscent of the "dental unit" of a modern dental surgery. Fundamentally, a graduated reservoir is provided for the local anæsthetic solution, holding perhaps a litre. This reservoir may be regarded as the barrel of a large syringe, fixed vertically with the nozzle end downwards. A freely floating piston rests on the upper level of the fluid. In direct communication with the upper empty part of the barrel behind the piston is a supply pipe from a cylinder of CO_2. Thus the plunger expresses solution from the lower end of the reservoir by the pressure exerted from the escaping gas. The plunger is subjected to a pressure of three atmospheres. To the lower end of the "barrel" or reservoir is fitted a considerable length of rubber tube ending in a suitable hand-piece with finger-operated tap, and nozzle to take needles. All parts of the apparatus are sterilised, the hand-piece and tubing before each operation. There is a clip-on apparatus for holding the hand-piece and supply pipe. The whole is firmly mounted on wheels. Thus unlimited supplies of local are always available, "on tap and under pressure." It is an incentive to the use of local anæsthesia and to the use of an adequate amount. This apparatus is also costly, about £60, but there were three of them in use! Throughout the clinic is most generously supplied with funds from the town. It made one sigh for some such grant in England.

I feel there are two chief criticisms to be made against many of the clinics on the Continent. One misses that feeling of sympathy with the patient which is essentially a requirement of every practitioner of medicine and surgery, and should be constantly and noticeably present. It is an attribute of which we are so frequently being reminded by our leaders of the profession. Especially should this sympathy be shown towards the surgical patient. For him, every suggested line of treatment, every procedure of investigation, and, above all, the operation itself, is potent with fear—fear of the unknown and fear of pain, which so many try to hide as being ignoble and cowardly. That our sentences and our actions should be as gentle and soft as we are capable seems to me a *sine qua non*. It is the lack of this which tends to make local anæsthesia at times something short of a farce and gives it an ill-repute with the laity. The not infrequent practice of strapping conscious patients on the operating table prior to the operation must be almost petrifying, for a child especially. There seems ever imminent a risk of the patient being sacrificed to the development of the highest technique, though such technique must therefore be false.

The wards are often much overcrowded, with the beds so close that there is only just room for a small locker to stand between each. This, combined with an utter lack of privacy for dressings and other quite personal matters, makes for further unnecessary mental suffering. The other criticism is directed against the standard of the nursing profession. Of the practical nursing it is difficult to formulate an opinion. But one is immediately struck by the lack of nurses and their absence from the wards. One does not see that constant care for and individual superintendence of each case which is so evident in English institutions. The profession itself, perhaps, is not made an attractive one, for certainly it appears to contain rather an uneducated type, looking intensely fatigued from over-work.

It is, however, only a spirit of friendship which prompts these criticisms, and one naturally judges according to the high standards achieved by the rest of the surgical organisation. I left Germany holding in high esteem the efficiency and perseverance of the men I had met, and with a feeling of gratitude and affection for the warm-hearted welcome I received everywhere.

Unveiling of a Memorial Tablet to Sir Cosmo Bonsor

A MEMORIAL Tablet to the memory of Sir Cosmo Bonsor, in the entrance to the Hospital Chapel, was unveiled on Tuesday, June 20th, at 3 p.m.

There were present the following members of the late Sir Cosmo Bonsor's family: Lady Bonsor, Sir Reginald Bonsor, Major Arthur Bonsor, Mrs. Hambro, Lady Alderson, Mrs. Reginald Hildyard, Miss Bonsor and Mrs. Herbert Fowler.

Lord Goschen, in unveiling the tablet, said:—

"We come here this afternoon to unveil this tablet to the memory of Cosmo Bonsor, in the hospital which he loved and in the hospital which loved him so well.

"I do not think that those of us who are here this afternoon need any memorial made with hands for us to remember him by; his memory will ever be green in our hearts, but it is well that

there should be this tablet here, that those of Guy's men and Guy's women who did not know him who pass by may have the opportunity of reading on this tablet these very simple, but very beautiful words, which will show to them what manner of man he was and what he achieved for the Hospital.

" For very many years he was Treasurer of this Hospital. He was a great Treasurer and a fine administrator, and his tact smoothed over many of those little difficulties which so often must occur in great institutions like this. In a life, perhaps, more busy than the lives of many, he gave much of his time and much of his service to this Hospital, and no call ever went unanswered by him. He infected with his enthusiasm, with his energy, and with his zeal all those with whom he worked.

" I believe that, to those of us who knew him so well, it was not for what he did that we shall remember him, but for what he was—his charming personality, his fine character, and for all the love and sympathy, the generosity and charity, and the brightness and cheerfulness which he always showed. Wherever he went he radiated happiness, and I think we at Guy's may say that the rays of that happiness have shone not only in the Hospital, but far away in distant lands, where Guy's men and Guy's women who knew him are gathered together, and I am confident that wherever he went those who met him—members of the Staff, nurses, or servants—felt always the better and brighter for having seen him, for his heart always prompted the kind and appreciative word to them.

" We in Guy's like to think of ourselves as a great family in the highest and best sense of the word, and if we are so, surely it is mainly due to his influence and his inspiration, for indeed he was the Father of this Hospital, which he guided by his kindly wisdom and his enduring patience.

" He is gone, but we at Guy's believe that his spirit is still with us to-day, and that by Guy's men and Guy's women of the past, of to-day, and of generations to come his memory will be treasured and honoured for evermore."

After Lord Goschen's address the Acting Chaplain, the Rev. E. Royle, dedicated the tablet.

The inscription on the tablet is as follows :—

" In Honour of
Henry Cosmo Orme Bonsor,
Born, 1848. Died, 1929.
A Governor of this Hospital, 1882-1929,
Who by his Wisdom,
Generosity, Kindliness and Unfailing Humanity
Endeared himself alike to
His Fellow Governors, the Medical, Surgical
and Administrative Staff,
The Nurses and the Patients."

Nursing News

FEW spots within the precincts of the Hospital are so popular these summer days as the swimming-bath in the Nurses' Home. On Monday, June 26th, an unusually large crowd gathered there, attracted by an informal swimming evening which had been arranged by Sister Stainforth and Head Nurse Adams, the swimming representatives to the Nurses' Council.

The programme included, besides the more usual competitions, team races and life-saving displays, several novel features in the form of obstacle races. To button on a wet night-shirt with nervous fingers, swim in it, somersaulting bars on the way, and then to " bob " for buns suspended on strings a couple of feet above the water at the deep end appeared difficult, but was most entertaining to watch. In the final for this race Nurse de Roussier narrowly managed to beat Nurse Jackson, after diving to find two plates at the bottom of the bath, eating ten cherries, and swimming to the goal bearing five stones on each plate.

Several fierce duels were fought with pillows on a greasy pole. Staff Nurse Nockolds and Head Nurse Scott showed much tenacity of purpose, but in most cases the submerged victims were overcome rather by laughter and fatigue than by the aim of their opponent's blows.

A plunging competition was won by Nurse Boxall, and the neat diving displayed by Head Nurse Adams deserves special comment.

Great enthusiasm was aroused by a team race between first, second and third-year nurses, when the senior team, which consisted of Staff Nurse Nockolds, Head Nurses Adams, Scott and Wood, proved the victor.

A most entertaining evening was concluded by a hilarious game of " Blind Man's Buff," in which all the players were blindfolded with the exception of one who, with a whistle in her mouth, allured her pursuers with shrill blasts and then ducked and dived to escape their grasp.

If another swimming evening is held this season, as may be possible, it is hoped that many of Monday night's spectators will become competitors. It is at least probable that, after the splashing which their uniforms received, they will come attired in bathing costume.

Correspondence

Fees in General Practice

To the Editor of the GAZETTE

SIR,—The paper by Dr. Douthwaite on fees and consultative and general practices and the discussions thereon have proved of some value. At an annual meeting of the Royal College of Surgeons, I said Dr. Douthwaite was the only consultant who knew the life lived by the general practitioner. That was a heighened way of putting the case, but I was engaged in the delightful task of attacking Lord Moynihan, the President, for exclusion of members from any control. Still, Dr. Douthwaite was in general practice before his advent to Guy's Staff—and knows.

I endorse no honourable man would share fees with a consultant—that means corruption, as the patient is dependent on the integrity of the family doctor.

" Making his own market " in fees is not easily attained. To do business, a doctor must get on with people, and they are diversely situated.

Of the fees of consultants during practice of many years, I should have very little complaint to make. Of course, there are a few exactors whom we can discard. But the consultants have almost invariably willingly adapted themselves to the financial position of the patient, with the responsible consideration and courtesy for all concerned that we should expect. The pretty frock of a typist may not, however, imply wealth, and we could maintain a consultant should see a poor patient for nothing—on the ground of the Good Physician.

That leads me to another vista. Ours is a scientific, commercial age, and never was a liberal education more necessary in the humanities to correct. So, if I may trespass, I trust the Guy's Debating Society will have a very different programme for the next winter session.

Yours, etc.,

RICHARD GILLBARD.

36, Dean Road,
N.W.2.

Acute Appendicitis

To the Editor of the GAZETTE

SIR,—I was very interested in Dr. Beccle's comments on my clinical lecture on acute appendicitis, representing, as they do, the experience of a practitioner who has opportunities of observing the disease in those early stages that do not often come to the surgeon.

I entirely agree with him that appendicular obstruction does occur, that it is particularly fatal, and that we should all remember that pyrexia, guarding and tenderness are not necessary for a diagnosis of appendicitis, while cases without these signs are often the most dangerous. I would only take exception to one statement in his letter, that " there is usually colicky pain in the right iliac fossa." Colicky pain, in whatever organ it arises, is never accurately localised, and pain starting in the right iliac fossa is very rarely indeed due to appendicitis.

I regret that I am unable to distinguish the types with certainty. Colic is very common to all cases in the early stages. Absence of guarding and tenderness may mean that the appendix is distended but not inflamed, or that it is inflamed but not in contact with parietal peritoneum. Absence of pyrexia may mean a condition that is more mechanical than inflammatory, or the early stages of an infection so severe that vessels and lymphatics are sealed off in a massive gangrene. I prefer to regard all cases of appendicitis as potentially malign.

My only object in suggesting that such a differential diagnosis is unreliable was to make the problem before the student a clear issue. If a doctor is taught to believe that there are two types of appendicitis—the one dangerous, the other comparatively harmless—and that he can distinguish between them, he is going to sacrifice many lives for what I believe to be mere sophistry. If he adopts the simple rule that all appendicitis is dangerous and that further distinctions are interesting but quite unreliable, he will recommend immediate operation in every case.

Partly from lack of time and partly from the fear of appearing prejudiced, I did not in my lecture refer to the many tragedies due to the waiting policy which are brought to my notice every month. A detailed account of these would carry conviction to the most sceptical. Though few of these cases have been watched in hospital, they have been watched carefully and conscientiously, and I must lay the blame for the outcome upon the counsel of my young and aged colleagues who have been preaching expectant treatment.

Yours, etc.,

W. H. OGILVIE.

105, Harley Street,
W.1.

Water Divining

To the Editor of the GAZETTE

SIR,—The interesting and ingenious research on water-divining described by Dr. Lintott in your last number will give those of us who until now have been sceptical on this topic much food for thought. I must number myself hitherto among the sceptics, but always with the reservation that traditional beliefs persisting through centuries and in various cultures and in different regions of the earth's surface not uncommonly have "something in them."

Dr. Lintott's remarks suggest several queries. Since we are concerned with subconscious phenomena it becomes necessary to take account of such facts as that, nowadays, research investigators of standing, among them no less a person than the Cambridge philosopher Dr. Broad, believe that they have established under experimental conditions the existence of telepathy. The ordinary evidence for telepathic occurrences is not convincing, but the experimental work of Dr. Broad is in a different category and cannot lightly be disregarded. I would like to ask, therefore, whether in the water-divining experiments under discussion the experimenters were :—

(*a*) Present in the room with their subjects, as I presume they were, and

(*b*) Whether the position of the pipe and the times during which the water flowed and stopped were known to them ?

If these conditions existed it is conceivable on the telepathic hypothesis that those subjects who are now credited with a capacity for water divining under laboratory conditions were really not so much apt for water divination as for telepathy.

Some other points arise : if the movements of the wood are the result of altered muscular tension, why did they not occur when there was insulation, as it were, between the rod or twig and the hand ? If only such disparate substances as wood and iron are suitable, the physics of the matter seem as odd as those of Abrams' box.

Or is the peculiarity in water itself ? Was any other liquid perfused through the pipe ? It should not be difficult in the vicinity of the hospital to experiment with the detection of supplies of alcohol.

The experimenters point, however, not to the liquid but, as Dr. Lintott says, to the movement in it ; not water, but *running* water. This surely suggests that explanation of the phenomena for which the experimenters are confessedly still looking. Was any means used to detect whether there was vibration in the pipe ? In a state of nature one imagines the running water whose presence is divined must be present in a trickling or brawling or, at any rate, in some vibratory fashion.

Now, Sir, most advances of science nowadays occur at the junction, as it were, of fields of knowledge. What is dark in one is suddenly illumined by contact with another. My learned colleague, Dr. S—m—nds, who some time recently was seen of a summer evening plying a fishing-rod from his doorstep in W—mpl— Street, tells me there is a very close connection between running water and fish. Now fish have an organ which we are believed to have lost, a "lateral line" sensitive to vibrations transmitted, of course, through water. Is the missing sense suspected by Dr. Lintott a vestigial remnant of this ancestral equipment ?

Academic research is often condemned by the Philistines as unprofitable, but scientifically-minded people know that from the most cloistered researches frequently appear devices of the utmost practical value. Consider, for example, the derivation of X-ray therapeutics from the physicists' experiments with the element radium, or the emergence from work on aniline dyes of aspirin and high explosives. It is surmised that the composition of our blood corresponds with the composition of the sea, as it was at the time that our vascular system finally became a closed one—that is to say, some time before our ancestors finally abandoned a marine for a terrestrial existence. May it not be, Sir, that in those persons whose forebears more lately committed themselves irrevocably to dry land the ancestral vibration sense had reached a greater stage of development, having had longer to develop under water ?

Might it not be possible, by modifying the composition of the blood in some of us, to bring it to the composition corresponding to that of the blood at the period when perception of vibrations had reached its most advanced and perfect development ? Might not in this way the piscatory misfortunes of another learned colleague of mine, Mr. McN—r—, who, although he fishes in Devon and not in W—mpl— Street, often goes unrewarded —be redeemed, by injecting into, or subtracting from, his bloodstream sodium chloride, so attuning his receptors to the same wave-length as that of the fish with whom he so earnestly desires to make a *rapprochement* ? People and fish of the same aqueous *tempo* must surely tend to run together.

Yours, etc.,

T. K. EIPSELIG.

To the Editor of the GAZETTE

SIR,—I have read Dr. Lintott's paper on the subject of water divining with much interest, and a renewed regret that a peccant duodenum prevented me from taking a more active part in his investigations.

However, I feel that two points cannot be allowed to pass unchallenged. The first is unimportant. But the phrase "so-called" is, as a rule, unnecessary, and, when used in the title of a paper which proves in no uncertain manner that water divining is a scientific fact, it is most likely to start the uninitiated reader with a regrettably false impression.

The other point is, however, more serious. Dr. Lintott makes a definite statement that "It was found impossible to forecast the depth at which water was likely to be found."

In my own experience, and in that of other dowsers, it is possible to forecast the depth with some considerable accuracy.

The method employed is to walk away in a direction at right angles to the direction of the stream until the pulling of the rod can no longer be felt. The distance from this point to the point of the strongest pull is, in the majority of instances, approximately half the depth at which the water will be found.

This fact is of great interest in that it throws a light on the possible nature of the exciting force generated by the running water. In order to show this phenomenon of internal reflection, with a critical angle of approximately 30 degrees to the vertical, the impulse must be some form of radiant energy analogous to light.

May I suggest that a further series of experiments be conducted in investigation of this matter, and at the same time may I express my willingness to co-operate in these experiments to the best of my ability?

Yours, etc.,

J. MAURICE LEA.

Guy's Hospital,
S.E.1.

Hospital Information, etc.

Pass List

CAMBRIDGE UNIVERSITY.
Easter Term, 1933.
SECOND EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.
PART II.
Human Anatomy and Physiology.
E. S. Dismorr H. R. Loughran
A. Ponder
THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.
PART I.
Surgery, Midwifery and Gynæcology.
W. H. Lewis G. E. Walker
PART II.
Physics, Pathology and Pharmacy.
I. G. Robin E. Sharp

SOCIETY OF APOTHECARIES OF LONDON.
June, 1933.
FINAL EXAMINATION.
Surgery.
*T. E. Mitchell.
Midwifery.
R. M. Outfin.
*Now holds Diploma.

Papers by Guy's Men

E. C. Warner. 1. Erythrœdema; 2. Hepatomegaly of unknown origin (probably von Gierke's disease); 3. Hydrocephalus successfully treated by repeated puncture of lateral ventricles. *Proc. R.S.M.*, 1933, xxvi, 1005.

H. W. Barber. ? Lichen planus; case for diagnosis. *Proc. R.S.M.*, 1933, xxvi, 995.

L. Forman. ? Pigmentary and atrophic lichen planus following administration of arsenic and bismuth. *Proc. R.S.M.*, 1933, xxvi, 997.

E. G. Little. 1. Lupus erythematosus with sarcoid tumours; 2. Drug eruption. *Proc. R.S.M.*, xxvi, 1002.

G. T. Hankey. Von Recklinghausen's disease with local tumour of palate. *Proc. R.S.M.*, 1933, xxvi, 959.

J. D. Cambrook. Some observations on extraction of teeth in cases of hæmophilia. *Proc. R.S.M.*, 1933, xxvi, 962.

A. R. Thompson. Some rare cases of enlargement of prostate. *Proc. R.S.M.*, 1933, xxvi, 1070.

Appointments

H. W. A. Post, M.D., D.M.R.E., Radiologist, Putney Hospital.

E. M. Greenwood, L.D.S., R.C.S. (Eng.), Chief Assistant, Dental Dept., St. Bartholomew's Hospital.

Change of Address

R. W. F. Brotherton, L.D.S., R.C.S. (Eng.), 62, Badminton Road, S.W.12.

Dr. H. N. Garrus, 2, Mount Road, Hayes, Middlesex. *Hayes* 437.

Births

TRICK.—On June 29th, 1933, to Edith Mary, wife of S. R. Trick, M.B., B.S., 229, Norbury Avenue, Thornton Heath—a daughter.

LEA.—On July 4th, 1933, at Brambletye, The Glade, Kingswood, Surrey, to Janet Violet (née Jupp), wife of J. M. Lea—a son.

Marriage

BROTHERTON—DE SAVE.—On 4th June, 1933, at Christchurch, Wanstead, R. W. F. Brotherton, L.D.S., R.C.S. (Eng.), to Eugenie de Save, eldest daughter of C. Campbell de Save, of Manor Park.

EDS. { M. J. McA. / C. G. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

"TEMPORA mutantur, nos et mutamur in illis." Once more the new firms are with us. For the new firms themselves there can be no difficulty in realising that there has been a change. Their surroundings are different, and they have once more to pretend that, although they really understand their new job, they cannot be expected to be efficient in a ward run as this new one. For house officers, too, it is easy to know that the firms are new ones; some of them hope for an improvement on the last lot, and most speculate on the prospects of being able to bounce the new into doing more little jobs than their unlamented predecessors, until they in their turn learn wisdom, and evade all but the most essential duties.

The sense of newness is therefore understandable in the ranks reached by ordinary mortals, but we may be allowed to let our imagination stray and picture the dawning of such a new era on the higher authorities. How do the members of the staff know that their firms have changed, for we remember being asked by our surgeon in the tenth week of the appointment if we were a member of his new firm.

The eccentricities of new clerks are usually not seen by the staff; the physician does not see the specimen glasses filled with lysol being carried proudly to the test cupboard; the comments of the take-in firm on their ward-clerks, temporarily mislaid at meal-times, do not reach the ears of the surgeon; the obstetricians are not asked why the rectal temperatures are so carefully plotted in post-natal cases. But we may imagine that there are straws showing which way the wind blows. In the theatres there are obvious signs of inexperience, and the registrar is like a hen with a brood of ducklings, very much afraid that the ward-clerks are going to do something funny. Junior dressers are seen struggling with their gloves, and many torn remnants bear witness to the fight that has taken place. We are conscious of many of our own short-comings inside the theatre and most surgeons will tell of the ignorance of the principles of asepsis possessed by physicians, so of that we shall say nothing.

There must be few members of the staff who have new firms figuring so largely in their more unpleasant dreams than the anæsthetists; loud yells, long-continued, come from the anæsthetic room as a clerk changes from C. & E. to ether and back again, hoping that the patient will shut up soon and show some signs of unconsciousness; during the operation these worried anæsthetists will look anxiously into the recesses of the theatre, where their instructor has retired, perhaps not wishing to show incompetence by asking for assistance, but wishing it would come all the same. But perhaps we are dwelling too much on our own harassed youth, and the new anæsthetic substances have ushered in a new and confident race of "dope clerks," who need no longer be so worried about their patients' lives as we were.

In the medical wards it is difficult to see how the physician can tell that he has a firm before him who have heard none of his opinions before. But perhaps in special cases the change is obvious. A physician may have become used in the past three months to one face in particular always in the front of his circle of hearers, a face with eyes fixed on his—not always awake, perhaps, but a passable imitation—and a mouth which has at increasingly frequent intervals asked obvious questions. Suddenly this face becomes replaced by a different one, but the difference is not striking because the same questions proceed from this mouth as the last. Of the shadowy figures on the outskirts of his firm, we suppose the physician is not so acutely conscious; from quarter to quarter they do not vary; large, athletic, sometimes startlingly attired, they sit on the lockers, or on beds originally neatly made and clean; they say nothing and give no indication what stuff their dreams are

made on—they must be very difficult to sign up at the end. In the special departments the first days of a new firm are more gratifying to their chiefs. The number of people on rounds suddenly increases to three times its former figure. The specialist does not know whether they are new or not, because his clerks so seldom come to hear what he has to say that he never recognises them. But the time comes when he realises that he does not become valued at his true worth every three months, but only that his clerks are new and have not yet learned to cut his rounds.

Perhaps we have allowed our imagination to argue too much from the particular to the general, for all these shortcomings have been our own. But it would be illuminating to know how our quarterly "general post" appears to those who are in charge of it all. What signs are there that they may tell their jokes over again, re-issue the cherished anecdotes of olden time, and recall once more cases seen in the days before medicine became so easy.

THE Dance held recently at Tavistock Square was, like all the social events organised by the Guy's Hospital Ladies' Association, well attended and successfully carried out. The numbers were just right, and though the floor was always comfortably filled it was never crowded. One could see friends—and no one seemed absent—enjoying themselves in good perspective without buffeting into or with them. It says much for the excellent playing of Pilbeam's band that, although the night was extremely hot and the gardens invitingly cool, the dancing never flagged, but quickened in time and spirit till the very end. In fact, by that time one was reminded of the boast of the old buck that in his young days "we were all three collar men." The refreshments were delightfully cooling, though it was a rude shock to many to find suddenly at midnight that the more stimulating ones could not be obtained with two hours still to go. They went, however, all too quickly, and we must thank the organisers for a very jolly evening and hope that their efforts were as successful financially as they were socially.

IT is difficult to imagine the Park without the sight of Professor Pembrey crossing it as the Medical School without the sound of his stimulating utterances. The Hospital—Staff, students and nurses—will be unforgettably impoverished by his retirement. We publish this week an account of the supper recently held in his honour, and intend in the next number to give a full appreciation of him and his work.

WE are relieved that Sir Francis Shipway, in his recent appearance in Court, did not need to follow the dramatic precedent set by Dr. Douthwaite.

Retirement of Mr. William Gray

THE news of the impending retirement of our old friend, Mr. William Gray, from his post as senior porter in the College will be received both by present and past Guy's men with deep regret. "William" has been in the College for over 30 years, and during his long term of service he has been not only a servant but a real friend to most of those who have passed through the Medical School. Many past Hospital Residents will look back with pleasure to motor bus trips to Epsom on Derby Day, at which William organised with conspicuous success the catering department. Gifted with a remarkable memory for names and faces, Mr. Gray seldom fails to recognise and to give a hearty welcome to any old Guy's man returning to the College. William has in many ways been an integral part in hospital life. We hope that in his retirement he may find time to write his reminiscences, which we feel sure would throw new light on hitherto unsuspected activities of many prominent Guy's men.

William's tact, whether in quelling disturbances or in arousing from slumber the recalcitrant

extern or house officer, needs to be experienced to be appreciated. No cup-tie match was considered complete unless graced by the presence of William Gray. His soothing influence on those overcome by too diligent application to work or by other noxious influences was truly remarkable.

We feel sure that in his retirement he will take with him the affectionate regard and best wishes of all Guy's men, past and present.

As a small mark of appreciation a testimonial is being organised, and subscriptions may be sent to Dr. J. J. Conybeare, c/o *Guy's Hospital Gazette*, in which their receipt will be acknowledged.

Infections of the Urinary Tract in Pregnancy and the Puerperium

A Clinical Lecture delivered at Guy's Hospital on Monday, June 19th, by G. F. Gibberd, M.S., F.R.C.S.

GENTLEMEN,—I want to speak to you to-day on infections of the urinary tract in pregnancy and the puerperium. The subject is an important one, for from 1 to 2 per cent. of all pregnant women are found to have urinary infections.

Dealing first with symptoms. A patient may have a urinary infection in pregnancy without any symptoms at all, and the evidence for saying she has such an infection is based upon examination of the urine. There are patients who pass urine containing many B. Coli organisms, but no pus at all, and it is questionable whether you ought to say that they have a urinary infection; they certainly have no inflammation.

In other patients with no symptoms there may be both bacteria and pus in the urine. You can justly say they have a urinary infection, but as they have no symptoms their condition often passes unnoticed unless routine examinations are made.

The patients one treats commonly are those who have both frequency of micturition and pain in the act. These symptoms are not necessarily to be regarded as an indication of cystitis, because if the patient has pyelitis and is passing a urine which is irritating it may cause pain and frequency without there being any actual bladder inflammation.

Coming to the more severe infections, the patient may have definite symptoms of involvement of the pelvis of the ureter, and she, in addition to the pain on passing urine and frequency, has pain in the loins, or it may be in the abdomen. This is much more common on the right side than on the left, though it may occur on both sides. The physical sign corresponding to the pain, that is to say, renal tenderness, is present. The most characteristic place for the tenderness is in the post-renal angle, and in patients with pyelitis you can often elicit a definite localised tenderness in that spot. In severe cases, with much general disturbance, there are sometimes alarming general symptoms. Starting with pyrexia, in mild cases it may be no more than 100° or 101° F., with a correspondingly raised pulse-rate, but later the temperature may rise higher, and rigors may occur. In that degree there is nearly always associated vomiting, sometimes so severe that it may interfere with the taking of adequate nourishment. So that in the worst cases the striking thing about the patient who has been ill a week or so is a very marked loss of weight; a patient who has had a temperature and vomiting for three or four weeks may lose several stone in weight during that time.

The disease, as we see it, rarely causes involvement of the renal parenchyma, but occasionally, in the severe cases, there are clinical signs that the kidney substance itself is implicated, and so the patient may start to show signs of kidney inadequacy. In the majority of cases of pyelitis there is no rise in the blood urea, but this may be increased in a very severe case. In such patients also there is a good deal of albumen in the urine. Any urine which has pus in it, even after filtering, may, when you boil it and add acetic acid, give an albumen cloud. When the renal parenchyma is involved you find an amount of albumen which is disproportional to the amount of pus in the urine.

Another point which it is important to realise is the common time of onset of this disease in pregnancy. Although it may occur at any time, it is most often manifest between the fourth and eighth month of pregnancy. These urinary infections in pregnancy are nearly always due to B. Coli, and the urine, besides containing pus and bacteria, is usually acid in reaction.

Now with regard to urinary infections in the puerperium. You will find that a much larger number of women have pus and bacteria in the urine in the puerperium than during pregnancy. Some of these are cases of pyelitis which has just continued after labour, but some are of a different pathology. They are insidious in onset, and

nothing may be noticed until a specimen of urine is examined in the routine way, and though in these cases B. Coli is the most common bacterium, there are a certain proportion with a coccal infection. In the process of labour the neck of the bladder gets pulled up into the abdomen, and even in a normal labour there may be some bruising of the mucosa of the bladder. It is very rare to get hæmaturia in a normal labour, but there may be sufficient bruising to predispose to a bladder infection. Given that predisposing cause, with or without the possibility of a catheter being used, you have all the conditions necessary for urinary infection. A number of these infections during the puerperium should thus be looked upon as bladder infections; as a cystitis which is different from the primary B. Coli pyelitis in pregnancy.

As a rule, there is no difficulty in the diagnosis of urinary infections during pregnancy and the puerperium when you realise the symptoms, but there are one or two difficulties which are worth considering, because they are a cause of uncertainty.

First, the question of albuminuria. Any urine with pus in it may give a positive result in an albumin test. Another disease which is not uncommon in pregnancy—"toxæmia of pregnancy"—is associated with albuminuria, and, though it is uncommon for a patient to suffer from toxæmia of pregnancy and pyelitis of pregnancy at the same time, nevertheless when she has been delivered she may get her lower urinary tract infected. Thus in the puerperium it is often difficult to know whether the albumen in the urine is due to a cystitis which the patient has developed or whether it is due to a persistence of the toxæmia which ante-dated the confinement.

The other real difficulty in the diagnosis of pyelitis is to know whether it is the cause of a rise of temperature in the puerperium. A number of these cases of urinary infection in the puerperium are very mild, and, apart from some pain and frequency of micturition, the patient may have no general symptoms. But infection of the genital tract may cause a rise in temperature, with often but few localising physical signs. Often, therefore, you are faced with this problem: Here is a patient in the puerperium who has a temperature and has pus in the urine; is the temperature due to the urinary infection or is it due to something else? That is a very important thing to decide. If it is due to urinary infection, it is not, as a rule, serious, but if it is due to puerperal uterine infection it is a potentially dangerous condition. And I do not know how you can be sure in every case whether to attribute it to urinary infection or not. It is uncommon in the puerperium for urinary infection to cause an elevation of temperature without obvious signs and symptoms, such as frequency of micturition and renal tenderness. The other point which helps your decision is the time of onset. Most cases of puerperal sepsis first have a rise of temperature about the third day of the puerperium. A urinary infection may have occurred at any time, not necessarily at labour, and therefore it will be a coincidence if a urinary infection happens to manifest itself on the third day of the puerperium. So the time of onset of the pyrexia will often help you to distinguish a pyrexia due to urinary infection from one which is due to puerperal sepsis.

We have now to consider the pathology of these infections, and we shall see that in pregnancy there are a number of factors which cause stasis in the ureter and thus predispose to an infection. During the 30 years which have elapsed since the condition was first recognised, pathologists have noticed that the ureter may be dilated during pregnancy. This dilation was always thought to be pressing on the ureter at the pelvic brim, and it was nearly always more marked on the right side. So the statement was made that in pregnancy there is a compression of the ureters at the pelvic brim, particularly on the right side, and this causes a stasis in the ureter, so predisposing to infection. This was accepted until a few years ago, when Haufbauer, at the Johns Hopkins Hospital, showed that the mechanism was not so simple. He showed that in pregnancy not only the abdominal part of the ureter, but the pelvic part also had a thickened wall, that there is a great increase of fibrous tissue and muscular tissue surrounding the ureter; in fact, the whole ureter is thickened and to some extent obstructed by this adventitious fibro-muscular tissue throughout its length, and particularly in the pelvic portion. He pointed out that the ureteric obstruction was in the pelvic portion of the ureter. More recently, Baird, of Glasgow, has catheterised ureters and studied pyelograms on many patients with urinary infection, and he has again brought back the former idea of pressure by the uterus on the pelvic brim. And I think we can accept Baird's findings. A ureter which is being pressed on at the pelvic brim may overcome the effect of pressure, and by increase in tone may be able to keep small. Whether the obstruction is due entirely to pressure or to a lack of tone in the upper ureter, is a rather unsettled point, but it does not matter very much at the moment. We know definitely that in pregnancy the abdominal ureter tends to be dilated, particularly on the right side, and that the stasis is

mainly in the abdomen rather than the pelvic ureter.

That gives us all the predisposing cause we want for urinary infections during pregnancy, but the actual path of infection is very uncertain. It is attractive to some to think that bacteria ascend via the urethra. It is not very far for B. Coli to go from the anus to the bladder. The great argument against this hypothesis is the clinical one. In the worst cases the first thing to happen is pyelitis, next cystitis and, last of all, urethritis —I am speaking of cases in pregnancy. In the puerperium I think it is possible that in many cases the bacteria get into the urethra and settle on a bruised bladder But in pregnancy the clinical sequence is: pyelitis common, cystitis uncommon, urethritis almost unknown. Many physicians prefer to look upon these infections as the result of an excretion of B. Coli by the kidney in patients suffering from a primary B. Coli blood infection, since this hypothesis fits in well with the type of patient seen by the general physician. Such patients may have a great deal of general illness with very few local symptoms; therefore, probably the bacteria are in the blood and are being excreted by the kidney. This, however, does not fit in with the clinical picture which the obstetrician sees. The first symptom is pain in the loin, and there is something wrong with the pelvis of the kidney, and it is only in the rarest cases that you find B. Coli bacteriæmia; so we prefer to look upon the septicæmia as secondary to the infection of the renal pelvis.

Another explanation was first mentioned in this country by Dr. Hurst. The ascending colon has an intimate relationship with the pelvis of the right kidney; there is a less intimate relationship between the pelvis of the left kidney and the descending colon, and it is suggested that the course which bacteria take in infecting the pelvis of the kidney is to traverse the lymphatics—which, by the way, anatomists fail to find—from the colon to the pelvis of the kidney, and so directly infect it. That idea fits in very well with the facts. There is an ascending colon which is full of fluid fæces, in which B. Coli are flourishing, and there is an intimate relation to the right ureter, and these bacteria sometimes pass over. The descending colon is a duct—it is not a reservoir—which only serves occasionally to pass inspissated fæces down to the pelvic colon. And its anatomical relation to the left kidney and ureter is less intimate, and bacteria will not pass so often from the left colon into the left ureter, as from the right colon into the right ureter. This is another possible explanation as to how bacteria get from their original home in the bowel to the ultimate seat of infection in the ureter.

The most important practical part of the subject is the treatment. As the majority of these cases of urinary infection are due to B. Coli, I think we can discuss the treatment, almost entirely, in relation to that infection. For urinary infections in the ordinary way you can give what are called "urinary antiseptics," the best known of which is urotropin. In pregnancy and in the puerperium we never use that at Guy's, because we have no evidence that it does good, and, secondly, because it is liable to cause bladder irritation. The alternative method is to render the urine alkaline, because B. Coli do not grow so readily in that as in urine of normal acidity. That is a simple treatment in principle, but not so simple in practice, namely, to give the patient alkalies so that her urine remains alkaline through the day and night. It is useless to give an alkaline mixture several times a day if you do not give it in the night as well, otherwise there will be an acid urine in the night. It is worth waking the patient up three or four times in the night to give her the medicine in severe cases; it is not often necessary to wake her up purposely, as she is usually disturbed sufficiently often by her frequency of micturition, and the medicine can easily be given then. The dose necessary varies much in different people. You start with 60 to 120 grs. three-hourly or four-hourly, and it is better to give small doses frequently than to give correspondingly large doses at infrequent intervals. You aim at getting every specimen alkaline to litmus paper, and the only way is to tell the patient that she must put a little of the paper in her urine every time she passes it, and if it does not turn blue she is not taking enough, and the dose must be increased. If the patient has a ureter which is dilated and there is much pus coming down it, it may be blocked, and it may cause severe ureteric colic; and if you give a good quantity of water there is less likelihood of mechanical blocking of a ureter which is already to some extent obstructed. So you should not feel satisfied unless the patient is taking five pints of fluid a day.

Diet is unimportant, except that meat tends to produce an acid urine, and a patient who is ill will, of course, wish for only a light diet.

There is another difficulty, which I have already mentioned, and that is vomiting. When a patient is ill with pyelitis she may vomit so much that she cannot retain even the necessary fluid, let alone large doses of alkali. It is well to keep such patients off fluids for some hours and give fluid per rectum, with glucose and bi-carbonate of

soda. If you do that for, say, 24 hours, you can usually overcome the trouble.

The vast majority of the patients, under that treatment, become symptom-free, their temperature falls, the pain on micturition and its frequency diminish, and in a week or so they are walking about and feel well. The milder cases, those in which there is not much constitutional disturbance, also respond quickly to the alkaline régime. When they are walking about without symptoms you may think they are cured, but you can only claim clinical cure, and that is not the same thing as bacteriological cure. You mean that the patient is free from symptoms, and she may feel well, but she may still have pus and B. Coli in her urine.

Occasionally you will find a patient in whom, in spite of your conscientious application of alkaline therapy, you find her temperature is still high, she is getting thinner, and is obviously going downhill. Those cases are quite rare, but they occur. We have had very good success with mercurochrome used intravenously in such cases. It has been vaunted for many things, and most of those who have used it have found it useless for a number of the conditions for which it is recommended. We have found it useless in, for instance, streptococcal septicæmia, but in severe B. Coli infections of the urinary tract I have several times seen a patient who has been absolutely resistant to other treatment get better immediately after two or three injections of mercurochrome. The doses of it which we use here are not the heroic ones which were originally recommended ; we use 10 to 20 c.c. of the $\frac{1}{2}$ per cent. solution intravenously. Give 10 c.c., then allow two clear days, then give 15 c.c., then three days interval, then 20 c.c.

It has been the practice here, if a patient has failed to get better clinically with either alkalis or mercurochrome, if she is going downhill, to terminate the pregnancy—but that is very seldom called for. After the pregnancy has been terminated the condition nearly always improves remarkably within 24 hours after emptying the uterus. It is a drastic thing to do ; it is not a treatment, but an admission of complete failure, but it is on rare occasions necessary. There are some who advocate drainage of the ureter by an indwelling ureteric catheter. The advocates seem to me to be rather too enthusiastic in finding indications too frequently ; but it would seem reasonable to pass a catheter into the pelvis of the kidney and leave it draining when other less meddlesome methods have failed. What makes me sceptical about its value is this : Only three times in the last seven years at Guy's have we found it necessary to terminate pregnancy for pyelitis, whereas the advocates of ureteric catheterisation find indications for its use in 20 or 30 cases a year. We get as good results with potassium citrate given by the mouth, and the latter is the more pleasant. I do not condemn ureteric catheterisation, but I say it should be reserved for the desperate cases, those in which you are on the point of terminating the pregnancy.

That is all one need to have said about treatment until a few years ago. It was the Mayo Clinic that started the new treatment of coli infections by giving patients a ketogenic diet, and the method has now been used sufficiently widely to make it quite certain that in many cases the urine can be sterilised by producing a sufficiently intense ketosis.

It has been shown by A. T. Fuller that the bacterio-static factor in the urine is β-oxybutyric acid, and that this and other ketone bodies are more active in killing bacteria when the urine is strongly acid. The aim of the treatment is, therefore, to get a maximum output of these ketone bodies in a very acid urine, and for this reason it is important that the amount of urine present should be as little as possible, since a polyuria will result in a corresponding dilution of the acid bodies. In this treatment, therefore, fluid intake has to be restricted.

The diet itself requires the strictest supervision in its preparation, since very small extra quantities of carbohydrate may present an adequate ketosis from developing. It is furthermore very unpalatable, and it would seem that most patients in the acute stage of the disease are quite unable to take it.

The scope of this new treatment is, therefore, probably confined to mild cases, or to more severe cases in which the acute pyrexial stage has been successfully treated by alkaline therapy. It is as yet too soon to be sure of the ultimate results, but it is quite possible that by means of the ketogenic diet we may be able to convert many cases of " clinical cure " into cases of " bacteriological cure," so that instead of having to be content with a patient who is merely free from symptoms we may be able to obtain a larger proportion of cases in which the urine becomes sterile in addition to the patient having no symptoms.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Farewell Dinner to Professor Pembrey

THERE are three reasons for dining—to eat, to drink, and to be sociable. To eat is a mundane and rather inglorious necessity of life. To drink is a pleasant but often regrettable habit. To be sociable is an instinct more highly developed in some than in others. Eating and drinking are purely introspective. They affect only oneself, and it is only oneself who can take the consequences. Sociability is an expression of one's relations to other people, an expression of friendship, of respect. On Friday, July 14th, 45 men sat down to dinner at the Bridge House Restaurant, not primarily to eat, though for 4/6 the dinner was good, not primarily to drink, though this may be the exception rather than the rule in regard to present-day Guy's dinners, but to pay their respects to the 46th man, Professor Pembrey. Mr. T. B. Layton took the chair and proposed the health of the guest in a speech which was stimulating and purposely provocative, and which pictured Dr. Pembrey as *fortiter in re* than *suaviter in modo*. The toast was seconded by Mr. P. M. F. Bishop. Mr. Frank Cook, in a singularly happy speech, then presented the Professor with a cheque for £180 on behalf of his old friends, contemporaries and demonstrators at Guy's.

Dr. Pembrey replied in a characteristically fighting speech, in which he attacked Mr. Layton for his biblical ignorance, in which he attacked the Primary Fellowship Examination on the grounds that it was a bad training in Physiology, and in which he attacked red tape in all forms. He announced that he intended to perpetuate the President's Prize of the Guy's Physiological Society, which he himself founded, and that the remainder of the presentation would be used by him in installing permanent fixtures in his new laboratory, which is being built on his farm at Ramsden, near Oxford, to which he is about to retire.

Against the Reading of Medical Books

AS students, our knowledge of medicine is gained through two main channels—the study of cases in the ward or Out-Patient Department under the guidance of someone of greater experience than ourselves, and the reading of books. Much of our knowledge can be gained only in a practical manner, such as the method of interrogating and examining a patient, while such things as differential diagnosis, complications and treatment can very largely be learned from a book. That the knowledge acquired at the bedside is infinitely better than that learned in the arm-chair will be disputed by few people, but, unfortunately, owing to their rarity, many diseases and complications of common diseases are never seen by the student during his period in the wards. The existence of a condition not seen in the ward, if learned in the differential diagnosis taught at the bedside, is unlikely to be forgotten, for when later presented with a case showing similar signs and symptoms the old memories are revived. It is very different, however, when we learn from the book, and it must have happened to many of us to " miss " a case of a disease whose pathology, diagnosis and treatment we knew well from the text-book.

Thus I would maintain that the text-book of medicine is a positive danger to the enthusiastic student. It is so fatally easy to learn a variety of abstruse facts about a disease from the book and to fail to remember the obvious and important points which are not forgotten when they are seen in a case; in the early years the legitimate use of the text-book is to consolidate our knowledge of cases seen in the wards. Only by seeing a great number of cases, and being taught about them by those who have seen many more, do we acquire a well-balanced outlook in medicine. We all know the man who is constantly seen with an abstruse book under his arm, perhaps on "Future Advances in Arsenical Chemotherapy," who fails to think of syphilis when he sees an ulcerated leg. Fortunately, most of us are prevented by an inherent laziness from reading books until the approaching examinations force us to do so, and gain the majority of our knowledge from the long periods in the wards for which this Hospital's teaching is famed.

From the point of view of the examinee the text-book is a necessity; but since examinations generally are an almost unmitigated evil, we may be permitted to resort to the baser methods in

dealing with them and sacrifice an ideal of a rather slowly acquired practical knowledge to the more easily acquired, fleeting, text-book variety. And when we look at our careers from another base point of view, namely, making a living, the value of our books—except as occasional works of reference, for which they become valueless in a few years' time, for decorating our consulting-room, or as monuments to our supposed erudition—shrinks to nothing. "Mrs. Dose, the Doctor's Wife," is of far greater value in teaching us to earn our living than the latest text-book of medicine, and the literature of the patent food manufacturers will ease our consciences more quickly than "Still" over that difficult, but lucrative, business of infant feeding. In view of the great expense of medical books, and the even great labour involved in reading them, this seems a small return.

Academic medicine with its pretence to be closely allied to the sciences suffers even more than they do from the rapid progress of research, for being based on the infant science of physiology it has no sure foundation, and each new theory, being insufficiently supported by fact, is soon swept away by a newcomer. Different illustrious writers hold different conflicting views on the same subject. Granted that a medical student's purpose is to learn to save life, alleviate distress and cure disease, of what value is this welter of changing and contradictory literature? Shall he pick on a theory at random in a given case, or with a greater caution deny that any is likely to be correct, and seek some old empirical line of treatment? How much more satisfactory it is to be told these theories at the bedside where the theoriser may be questioned and his treatment watched in practice. This contradiction of recognised authorities is no new difficulty in the history of medicine, for in the first century A.D. Celsus was writing, "Cur enim potius aliquis Hippocrati credat quam Herophilo? cur huic potius quam Asclipiadi?" So let our days be spent in the wards, but let us devote our evenings and our week-ends to a more amusing and a more profitable occupation than the reading of medicine.

H. A. T.

Correspondence

Water Divining

To the Editor of the GAZETTE.

SIR,—I should like to take the opportunity of replying to Dr. Eipselig's interesting letter, especially with reference to the particular points he raises.

Firstly, it seems unlikely that telepathic influence is a factor in the production of the phenomenon of water-divining. Although a considerable proportion of the experiments were conducted in the laboratory in the presence of persons cognisant of the whereabouts and existence or non-existence of a flow of water in the pipe, yet numerous observations were made in the country with the experimenter working entirely alone, in some cases several miles from the nearest human and, as far as could be ascertained, over ground which had never previously been examined by a living dowser. The results obtained were just as definite and accurate in the latter case as in the former, confirmation having been obtained by subsequent digging or boring.

In answer to the second point that Dr. Eipselig raises with regard to the abolishment of the response when the hands are not in close contact with the twig or rods, it must be pointed out that the movement of the indicators is initiated by a slight but definite increase in tone in the muscles of the hands and forearms, a change so slight as not to be detected by the naked eye, but which can readily be felt or demonstrated graphically. It does not, therefore, seem a cause for astonishment to find that the wearing of thick gloves will prevent the transmission of these fine muscular movements to the twig. Similarly, then, close-fitting rubber gloves might be expected to have but little effect in preventing the muscular action on the twig, and such was found to be the case. Moreover, it must be emphasised that there is nothing specific in the hazel twig or metal rods. Any contrivance which (by reason of the way it must be held) will fill the dual role of causing the necessary muscular tension to be exerted and of recording any change in the tone will serve as an indicator for the detection of running water. The hazel twig is commonly used by reason of its cheapness, abundance and the efficiency with which it performs these two functions. That it is not indispensable is shown by the fact that if the masseters are put on the stretch by lightly biting on two fingers placed in the mouth, and then the dowser passes over running water, an increase in muscular tension can readily be detected by a definite increase of the contraction

of the jaws on the fingers. Thus what at first sight may appear to be an odd and unscientific state of affairs can be explained on a simple scientific basis—as, indeed, it is believed that whole phenomenon should be—and without recourse to supernatural manifestations.

As Dr. Eipselig points out, the fact that the response is evoked only by running water undoubtedly suggests some form of vibration as the nature of the impulse. Attempts were made to convey vibrations to a column of still water in a metal pipe, by means of a tuning fork, but no response was elicited with the twig. Moreover, any attempts to screen off the impulse have so far proved unavailing, and although Dr. Eipselig's ingenious theory of the survival of the lateral line is in favour of a vibratory impulse, we are still in the dark as to its exact nature.

Mr. Lea criticises the use of the phrase "so-called" which appeared in the title of the paper. It must be pointed out that this term was carefully and deliberately chosen with the express purpose of conveying to any readers there might be the impression that the investigation was conducted in a highly sceptical atmosphere, as indeed it was. Any title which asserted the scientific proof of the subject to be discussed might have suggested that the experimenters embarked on their task with a definite bias in favour of the genuineness of the phenomenon; thus would the reader have been estranged before the facts of the case were laid before him.

Mr. Lea next takes exception to the statement—"It was found impossible to forecast the depth at which the water is likely to be found." He then proceeds to describe his own method for giving an accurate estimation of the depth. "The method employed is to walk away in the direction at right angles to the direction of the stream until the pulling of the rod can no longer be felt. The distance from this point to the point of the strongest pull is, in the majority of instances, approximately half the depth at which the water will be found."

In our experiments it was found that, on numerous occasions, a spring, the width of which as found by the response of the twig to be only a comparatively few feet, had a depth, revealed later by boring, of very many times the width of the area over which the response could be elicited. Moreover, it was found that different observers varied in sensitivity; therefore on the basis of Mr. Lea's theory each dowser would have to work out for himself, by actual experiment, a formula for calculating the depth.

The greatest objection to Mr. Lea's statement is that it is a well-known and indisputable fact that the amount of water in any particular spring is apt to vary, and thus, in the majority of cases, the width over which it exerts an influence on the dowser will also vary according to the time of year. Springs in this country tend to be at their maximum in January or February and at their lowest in the autumn. Thus it would appear, if Mr. Lea's statement is correct, that the level of a spring must vary with its width or at least with the amount of water flowing. This is hardly conceivable. Until a more plausible method for estimating the depth of running water is forthcoming, it is felt advisable to adhere to the previous statement that a forecast of the depth of the water based on the response of the twig alone and without recourse to geological knowledge, although frequently attempted, is in the majority of cases incorrect.

Yours, etc.,

G. A. M. LINTOTT.

Physiological Department,
Guy's Hospital.

To the Editor of the GAZETTE.

SIR,—Let ABC be a triangle such that $2AB = AC$ and angle CAB is a right angle. If your correspondent's data be correct, after heavy rain, when the width of streams is often increased, 2AB will also increase, hence AC will be greater; in other words, the bed of an underground river will lie at a greater depth after the spring breaks, the which, if not logically absurd, is quite mentally confusing.

Yours, etc.,

J. MONTAGU LEES.

To the Editor of the GAZETTE.

SIR,—Of course "so-called" is the right adjective to apply to water divining, for obviously they are not really looking for water. We have known for several months past that something fishy was abroad in Wimpole Street, and now the truth is out at last. With the medical racket getting worse every day, a select but dwindling group is making a most determined effort to find the crock of golden guineas that lies where the rainbow ends, nor are they stopping at any revolting practice to gain their wicked ends. Why, sir, water is nothing to them, who even spill

a little stranger's blood every day just to keep the magic warm. Do, please, use your influence to stamp out these pests in your midst who, under the guise of arts and crafts, cottagers in Sussex, folk dancing, "naturalists" and other uplifting nonsense, are ruining the happiness of my little people.

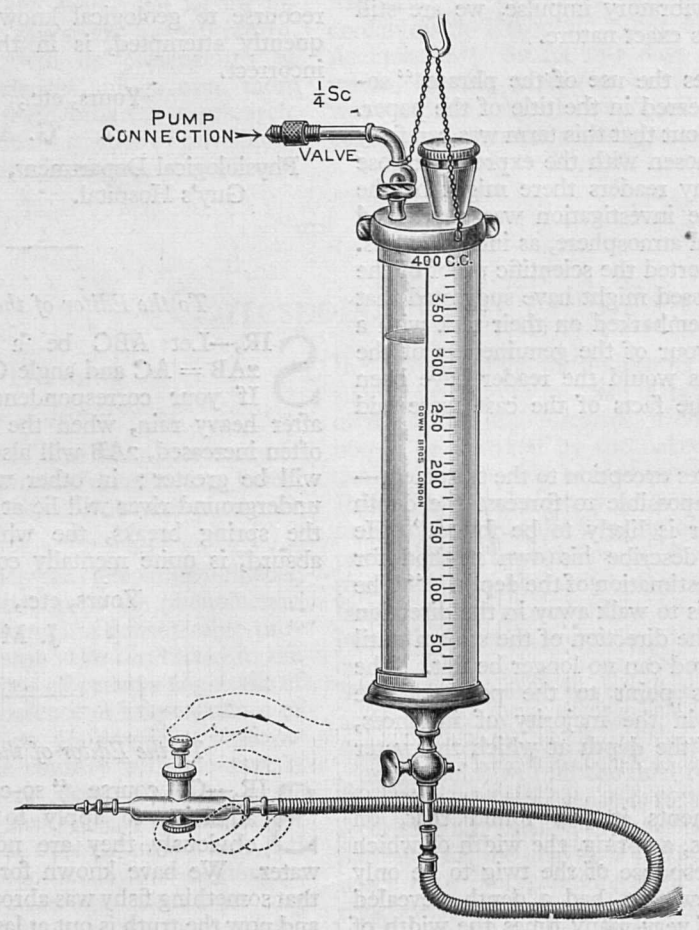
Yours, etc.,

PEA BLOSSOM.

Local Anæsthetic Apparatus

To the Editor of the GAZETTE

SIR,—In Mr. Northfield's interesting account of his visit to some German clinics, published in the last number of the *Gazette*, I was interested to read his description of Professor Kirschner's apparatus for giving local anæsthetics. The principle of using a reservoir in which the solution is under pressure and from which it is ejected by finger pressure on a tap is no new one. I attach an illustration of an apparatus made to my design by Messrs. Down Bros. in 1919 and described in the *B.M.J.* of that year, in which the same principle is employed. My apparatus costs £6 instead of £60 and has a capacity of 400 c.c. instead of a litre, and, while not mounted on wheels, it has the advantage that the glass of the container is an ordinary lamp glass and can be replaced for a shilling if broken. It can be blown up by a CO_2 cylinder, or by the humble bicycle pump, and would appear to inject even more forcibly than the machine described by Mr. Northfield, in that on it I was compelled to use flexible metal tubing, as the rubber tubing, which apparently is used on Professor Kirschner's apparatus, when tried on the one here illustrated, blew out and burst.



Yours, etc.,

E. G. SLESINGER.

14, Devonshire Place,

Hospital Appointments

Guy's Hospital Medical School

THE following appointments and re-appointments have been made by the School Council for the ensuing year :—

Clinical Tutor in Charge of the Preliminary Clinical Period Class—
E. R. Boland, M.R.C.P., M.R.C.S., D.P.H.

Medical Registrars—
C. F. Cosin, M.D., M.R.C.P.
G. A. M. Lintott, M.B., B.S.
R. L. Waterfield, M.B , B.S., M.R.C.P.

Surgical Registrars—
R. C. Brock, M.S., F.R.C.S.
A. Simpson-Smith, M.A., M.Ch., F.R.C.S.

Obstetric and Gynæcological Registrar—
J. B. Blaikley, F.R.C.S.

Demonstrator of Anatomy, Whole-time—
N. L. Eckhoff, M.S., F.R.C.S.

Demonstrator of Anatomy, Part-time—
A. R. Clarke, M.B., B.S., F.R.C.S.

Lecturer in Physiological Chemistry—
P. M. F. Bishop, B.M., B.Ch.

Demonstrators of Physiology, Part-time—
A. R. Clarke, M.B., B.S., F.R.C.S.
J. M. Lees, B.A., B.M., B.Ch.
N. E. Pitt, B.Sc., M.B., B.S.

Demonstrator of Pharmacology, Part-time—
J. M. Lees, B.A., B.M., B.Ch.

Assistant Lecturer in Pathology—
C. K. Simpson, M.D.

Anderson Demonstrator of Clinical Chemistry—
G. H. Oriel, M.D.

Assistant Lecturer in Chemistry—
W. M. Colles, B.Sc., A.I.C.

Demonstrator of Chemistry, Whole-time—
B. Levin, Ph.D.

Assistant Lecturer in Physics—
A. C. R. Wakeman, D.Sc.

Demonstrator of Physics, Part-time—
W. W. Gilford, B.Sc.

Guy's Hospital Dental School

THE following appointments and re-appointments have been made by the School Council for the ensuing year :—

Dental Tutor and Supervisor—
H. H. Kenshole, L.R.C.P., M.R.C.S., L.D.S.

Registrars in the Dental Department for Children—
R. Cutler, L.R.C.P., M.R.C.S., L.D.S.
R. E. Rix, L.R.C.P., M.R.C.S., L.D.S.

Demonstrators of Dental Prosthetics—
D. S. Clogg, L.D.S.
E. Matthews, Ph.D., M.Sc. L.D.S.
M. A. Rushton, M.A., M.B., B.Ch., L.D.S.
G. G. T. Tregarthen, L.D.S.

Demonstrators of Operative Dental Surgery—
Morning Attendance—
H. A. M. Ching, M.A., L.D.S.
J. W. Mansie, L.D.S.
C. S. Henderson, L.D.S.
J. A. C. Hunter, L.D.S.
G. S. Loader, L.D.S.
S. C. Holms, L.D.S.
Afternoon Attendance—
E. A. Lloyd, L.D.S.
K. S. Keele, M.A., L.R.C.P., M.R.C.S., L.D.S.
F. S. Warner, L.R.C.P., M.R.C.S., L.D.S.

Demonstrator of Dental Bacteriology—
C. S. Henderson, L.D.S.

Assistant Curator of the Dental Section of the Gordon Museum—
F. S. Warner, L.R.C.P., M.R.C.S., L.D.S.

THE following appointments and re-appointments have been made by the Court for the ensuing year :—

Hæmatologist to the Hospital—
F. A. Knott, M.D.

Resident Medical Officer, Bright Ward—
C. E. R. Wood, B.A., B.Ch.

Director of Venereal Diseases Department—
V. E. Lloyd, M.B., B.S.

Assistant Director (Female) Venereal Diseases Department—
Miss M. Rawlins, M.B., B.S.

Medical Officers (Male) Venereal Diseases Department—
E. H. Rink, B.M., B.Ch.
G. P. B. Whitwell, M.B., B.S.

Medical Officers (Female) Venereal Diseases Department—
Mrs. D. K. Brown, M.B., B.S.
Miss M. R. Levack, M.B., Ch.B.
Miss V. I. Russell, M.D.

Senior Assistant Bacteriologist—
L. W. Cann, M.B., B.S.

Non-Resident Anæsthetist—
K. J. Gilchrist, M.B., B.S.

Resident Anæsthetist—
J. Howell, M.B., B.Ch.

Demonstrators of Anæsthetics—
N. E. Pitt, M.B., B.S.
E. H. Rink, B.M., B.Ch.

Anæsthetist to Bright Ward—
E. A. Scott, L.R.C.P., M.R.C.S.

Chief Clinical Assistants and Registrars, Actino-therapeutic Department—
J. F. Carter-Braine, M.D.
S. Shone, M.D.

Chief Clinical Assistants and Registrars, Ear, Nose and Throat Department—
W. H. Bradbeer, M.B., B.S.
R. J. Cann, M.S.

Chief Clinical Assistants and Registrars, Opthal-mological Department—
B. R. Medlycott, M.B., B.S.
P. M. Moffatt, M.B., B.S.
M. Shaw, L.R.C.P., M.R.C.S.

Chief Clinical Assistant and Registrar, Neurological Department—
D. Denny-Brown, M.B., Ch.B.

Chief Clinical Assistant and Registrar, Department for Psychological Medicine—
C. P. Blacker, M.D.

Chief Clinical Assistant and Registrar, Children's Department—
F. H. Stevenson, M.D.

Chief Clinical Assistant and Registrar to Medical Out-Patients—
R. S. Bruce-Pearson, B.M., B.Ch.

Instructor of Patients with Defective Speech—
H. St. John Rumsey, M.A.

Dental Officer to Salomons' Centre—
E. R. Bailey, L.R.C.P., M.R.C.S., L.D.S.

Dental Anæsthetist to Salomons' Centre—
A. D. Marston, L.R.C.P., M.R.C.S., L.D.S.

Tuberculosis Officer—
G. Marshall, M.D.

Sport

Cricket

Guy's v. Private Banks

PLAYED at Catford Bridge on Saturday, April 29th, and resulted in a win for Private Banks.

Scores—Guy's, 109; Private Banks, 188 for 7.

Guy's

T. D. Ridsdale, c. and b. Black	23
C. G. Wright, c. Reed, b. Bryan	0
J. A. G. Starnes, c. Foster, b. Blessby	6
G. V. Doherty, b. Blessby	5
G. M. A. Brown, b. Blessby	30
K. R. D. Porter, run out	10
S. M. Whitteridge, l.b.w., b. Reed	1
T. S. Lowry, c. Gunn, b. Bryan	8
H. Cameron, b. Reed	6
R. M. De Gregory, c. Black, b. Bryan	4
R. L. Evans, not out	1
Extras	15
Total	109

Private Banks

C. G. Howard, c. Starnes, b. Doherty	33
M. Dawkin, b. Lowry	7
C. R. Black, c. and b. Lowry	15
J. G. Richards, not out	94
G. D. Tilburn, c. Starnes, b. Doherty	0
K. A. H. Reed, l.b.w., b. Doherty	1
C. T. Foster, b. Whitteridge	12
G. Foster, b. Lowry	20
G. C. Gunn, not out	1
Extras	7
Total	188

R. Bryan and D. A. Blessby did not bat.

Guy's v. Old Leysians

PLAYED at Honor Oak Park on Saturday, May 6th, and resulted in a win for the Hospital by 5 wickets.

Scores—Guy's, 171 for 5 wickets (dec.); Old Leysians, 110.

Guy's

T. D. Ridsdale, c. Alliston, b. Walker	44
G. M. A. Brown, b. Walker	23
C. G. Wright, c. and b. Welpton	17
G. V. Doherty, not out	35
T. J. Lowry, c. Morris, b. Walker	1
R. M. De Gregory, b. Walker	0
Extras	15
Total	171

Old Leysians

Alliston, b. De Gregory	10
Whelpton, b. Wylde	5
Masina, b. Wylde	2
R. Jones, l.b.w., b. Wylde	8
Whittburn, b. Doherty	53
Walker, b. Doherty	3
K. N. Hargreaves, b. Doherty	5
S. Hargreaves, b. Doherty	3
Morris, b. Doherty	4
Hockin, not out	6
Turner, run out	0
Extras	11
Total	110

J. A. G. Starnes, K. R. D. Porter, P. D. Wharton, R. L. Evans and W. Wylde did not bat.

Guy's v. The Wanderers

PLAYED at Honor Oak Park on Wednesday, May 10th, and resulted in a win for The Wanderers.

Scores—Guy's, 133; The Wanderers, 198 for 7.

Guy's

C. G. Wright, c. Marion, b. Soole	18
G. M. A. Brown, c. Parker, b. Soole	4
K. R. D. Porter, c. Baker, b. Soole	8
S. M. Whitteridge, l.b.w., b. Soole	6
T. J. Lowry, b. Wheeler	14
A. G. Heberlein, l.b.w., b. Soole	0
R. M. De Gregory, b. Wheeler	8
P. D. Wharton, c. Morey, b. Hall	28
J. L. Harrington, c. Innis, b. Hall	25
R. L. Evans, l.b.w., b. Johnson	11
W. Wylde, not out	1
Extras	10
Total	133

The Wanderers

L. G. Baker, c. Whitteridge, b. Wharton	15
G. H. Hodgson, b. Wharton	12
G. P. Parker, run out	50
A. S. Soole, c. and b. Harrington	54
T. J. Wheeler, not out	18
R. E. Johnson, c. Whitteridge, b. Wylde	37
F. L. Morey, b. Wylde	0
W. E. Innis, b. Wharton	0
Extras	12
Total	198

Bowling.—Wharton 3 for 125 Wylde 2 for 36, Harrington 1 for 17, Lowry 0 for 43, Whitteridge 0 for 36, Evans 0 for 25.

Guy's v. Wimbledon

PLAYED at Honor Oak Park on Wednesday, May 17th, and resulted in a win for Wimbledon.

Scores—Guy's, 80; Wimbledon, 177 for 8 dec.

Wimbledon

P. H. Whitcombe, b. Lowry	66
H. Goold, c. Doherty, b. Wylde	68
P. Meagher, b. Doherty	6
R. A. Duka, b. Doherty	0
E. L. Joste, c. Hill, b. Doherty	19
M. Van der Borgh, b. Doherty	0
G. S. Churchill, b. Whitteridge	8
G. Allan, b. Whitteridge	0
A. B. Marshall, not out	1
W. Stanton, not out	5
Extras	4
Total	177

W. D. Castle did not bat.

Guy's

A. G. W. Hill, b. Marshall	8
G. M. A. Brown, run out	22
G. V. Doherty, c. Marshall, b. Whitcombe	9
J. A. G. Starnes, b. Whitcombe	7
G. C. Wright, l.b.w., b. Goold	1
S. M. Whitteridge, b. Goold	0
T. J. Lowry, c. Goold, b. Whitcombe	6
P. D. Wharton, b. Goold	4
S. L. Harrington, not out	10
N. E. Gillham, b. Marshall	9
W. Wylde, c. Allan, b. Whitcombe	0
Extras	4
Total	80

Bowling.—Wylde 1 for 41, Whitteridge 2 for 34, Lowry 1 for 26, Doherty 4 for 53, Wharton 0 for 19.

Guy's v. Chelmsford

PLAYED at Chelmsford on Saturday, May 27th, and resulted in a draw owing to rain.

Scores—Guy's, 188; Chelmsford, 39 for 4.

Guy's

T. D. Ridsdale, c. Poney, b. Bailey	20
G. M. A. Brown, c. Salisbury, b. Howes	54
G. V. Doherty, c. and b. Barnes	35
H. Cameron, c. Owen, b. Barnes	18
S. M. Whitteridge, b. Barnes	6
F. A. M. Farr, c. Christy, b. Bradley	1
A. G. Heberlein, c. Bailey, b. Patient	8
P. D. Wharton, l.b.w., b. Murray	4
E. A. Moore, not out	18
W. Wylde, run out	0
R. L. Evans, run out	4
Extras	20
Total	188

Chelmsford

D. Salisbury, c. Heberlein, b. Evans	3
G. Christy, b. Evans	0
D. Murray, c. Moore, b. Evans	2
K. Bailey, c. Doherty, b. Wylde	20
R. Barnes, not out	7
A. Poney, not out	4
Extras	5
Total	39

J. Owen, H. Howes, W. Bradley, J. Scarffe and R. Patient did not bat.

Bowling.—Evans 3 for 16, Wylde 1 for 1, Doherty 0 for 8, Whitteridge 0 for 5.

Guy's v. Midhurst

THE above match took place on Saturday, July 15th, on the Midhurst ground, which is situated amongst beautiful surroundings on the Earl of Cowdray's estate. The turf was exceedingly good and in perfect condition. Opposite the pavilion, on the far side of the ground and just outside the boundary, stands the ruins of the old Cowdray Manor House, which was built by Sir David Owen in 1530. The Montagues later owned the manor. The legend states that one of the Montagues killed a priest in the chapel for not holding mass, and a curse, that the building should be destroyed by fire or water, was cast upon the manor. It was destroyed by fire in 1789. Also just outside the boundary were archery and polo pitches.

The fixture was an all day one. It was a very enjoyable game and ended in a close and exciting win for Midhurst by 10 runs. H. Cameron played a fine innings of 46 not out and G. V. Doherty also batted well for 38. These two came together when the score stood at 59 for 4 wickets and took the score to 105 before Doherty was caught. Cameron continued to play a fine innings and kept his end up, and attempted to get the runs needed for victory while wickets were falling at the other end.

Scores—Midhurst, 165; Guy's, 155.

Guy's

G. M. A. Brown, b. Harker	9
T. S. Eddy, c. Hockey, b. Bridger	15
H. Jones-Lewis, c. Bewey, b. Harker	6
G. V. Doherty, c. Moides, b. Price	38
J. A. G. Starnes, b. Harker	15
H. Cameron, not out	46
S. M. Whitteridge, b. Yeomans	3
N. E. Gillham, c. Harker, b. Yeomans	0
T. J. Lowry, b. Yeomans	15
E. H. Moore, run out	3
W. Wylde, b. Harker	0
Extras	5
Total	155

Bowling—Lowry 4 for 46, Eddy 1 for 4, Doherty 4 for 31, Wylde 1 for 17.

Hospital Information, etc.

Notice

FINAL F.R.C.S. COURSE.

The next Course of Instruction in preparation for the Final Examination for the Fellowship of the Royal College of Surgeons of England will commence on *Monday, August 28th.*

Guy's men who wish to take the Course should enter their names at the Medical School Office as soon as possible.

T. B. JOHNSTON, *Dean.*

July 18th, 1933.

Pass List

L.D.S., R.C.S. (Eng.).
FINAL EXAMINATION.
June, 1933.

PART I.

Surgery.

S. W. Kemp	L. Somerville Woodiwis
C. V. F. Thomas	R. A. E. Williams
E. S. Venning	L. J. Bailey
W. F. Collyer	F. S. Copley
K. E. J. Fletcher	J. W. Hallam
E. C. Jenet	J. H. Kendall
W. J. Littleton	B. Machado
E. J. Parks	H. G. Poyton
D. S. Raubenheimer	E. E. H. Sampson
J. A. G. Starnes	

PART II.

Dental Surgery.

S. W. Kemp	L. Somerville Woodiwis
R. E. C. Farrant	H. Hack
R. G. V. Houlson	R. A. Johnson
K. E. Lawrence	L. G. Lyle
W. E. Morton	H. P. Rees
M. H. J. Simpson	J. G. Spiller
H. A. Thompson	B. G. F. Turner
J. G. van Schalkwijk	W. E. Waite
S. R. Wallis	H. C. Walsham
T. Weiner	N. W. Westoby
K. J. Whitten	D. M. Wilson

Papers by Guy's Men

L. J. Witts. Anæmia in general practice. *B.M.J.*, 1933, i, 1091.

R. Jarman and A. L. Abel. Evipan, an intravenous anæsthetic. *Lancet*, 1933, ii, 18.

Appointment

S. Holms, Hon. Assistant Dental Surgeon, French Hospital, Shaftesbury Avenue.

Change of Address

S. C. H. Lane, M.B., B.S., Culmer, St. Leonards Road, Deal.

Marriage

LANE—KINGSTON.—On Saturday, 8th July, 1933, at St. Mary's Church, Dover, Dr. Sydney C. H. Lane to Gladys M. Kingston.

EDS. { M. J. McA. / C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVII — *5th August, 1933* — *Number 1175*

PASSIM

IT is hard to realise that after so many years of close association with the Hospital we have to bid farewell to Professor Pembrey. We publish in this number two appreciations of him which show how strong was his influence, and why so many generations of Guy's men retain such a vivid picture of him. It is not only as a teacher of Physiology that we shall remember him; it will be more because he taught with common sense, stimulated thought, and insisted on clear reason and argument. With him it was impossible to appeal to authority for authority's sake, for he encouraged that critical frame of mind that is so important in a welter of increasing theory. How many of us are especially grateful to him for the way in which he bridged the gap between Physiology and Clinical Medicine, and perhaps, one day, his idea of Clinical Physiology will figure more prominently in a revised medical curriculum. His phrases, of course, will always come readily to mind, and the poem that we print may help to illustrate other points of his general outlook.

In company with our two contributors we would like to wish Professor Pembrey the best of luck on his new farm in Oxfordshire, and hope that his retirement may not mean a complete severance from Guy's.

ANY scheme calculated to collect money for the Hospital needs wide publicity, and though the latest idea of the Appeal Secretary has been fairly widely advertised, there must be many who still do not appreciate the existence of the new Guild of Ex-Patients. This was started about six months ago with the idea of giving grateful patients an opportunity of doing something for the treatment they received. Each member pays a minimal subscription of 2*s.* 6*d.* a year, is entitled to wear a badge and has the obligation of spreading the needs of the Hospital and enrolling further members. A grateful patient makes a good collector, so perhaps we may hope that he will be more persuasive and inspiring in his difficult task than is usual. But it is in his own subscription that the certain benefit arises. The membership is now over 500, and the money that has been raised in this way so far is to be devoted to increasing the little comforts of the patients in the wards. For example, from the first batch of subscriptions it has been possible to start on the renovating and re-upholstering of the couches and chairs in the Surgical Block and the provision of further bed trays.

The Guild is growing rapidly, but it could be much larger. It has been worked out that, if only half the patients enrolled, the Hospital would have an extra annual income of £1,000. It is here that the houseman can help. Let him remind his patients on discharge about this Guild, and let him work on gratitude when it is freshest and most generous. That the subscription is going directly to the increasing of comfort is surely a potent weapon, and one with a direct appeal.

MOST of us know the Eye Ward as a gloomy place, where Eye, Skin and Nerve patients lead a dim and obscure existence in perpetual and unrelieved twilight. Though it adds a touch of unexpected life, the invasion of this ward by bugs cannot but have its inconvenient side. It may be easy to convince the patients that the stab of the Wassermann needle, the bleb of the skin test and the headache of the Lumbar Puncture are all for the best in the best of all possible worlds. The task, however, of explaining the therapeutic and diagnostic purpose of bugs must be even more difficult than introducing the coy mosquito to the fractious G.P.I. Though it may enliven the dull hours of those who lie supine with bandaged eyes for days after their operation to

listen to the excitement of the chase, one can pity their apprehension when the quarry makes for shelter in their defenceless direction. The skin patients probably do not mind—another lesion or two makes little difference to them, and it confuses the doctor's diagnosis, which is always diverting. The effect on the nerve patients is probably equalled out, for, while the sufferer from Disseminated is handicapped by his intention tremor when defending himself with his slipper, the task of dodging the advancing horde is probably more useful to the Tabetic than his Fraenkel's exercises. No doubt the Parkinsonian regards the scene with mask-like indifference, and helps to keep down the numbers of the visitors by rolling his heel instead of his pill. We hope the patients regard the pestilence stoically, and if, perhaps, the Hospital is giving them more than they expected, is not our motto " Dare Quam Accipere " ?

SOMEONE has bumped into the notice by the Medical School. We sympathise with this unfortunate one for the personal injury and mental anxiety such a *faux pas* must have caused. To avoid another mishap, surely the notices should be flood-lit at night, for those who appreciate their daily necessity must also realise that a trespass is more to be feared in the dark.

WE witnessed an amusing but illuminating incident the other night. Just opposite the College a crowd had collected round a woman who was leaning against the wall being interviewed by a policeman. Presently an ambulance drew up. With dignity, but without assistance, she entered it. The ambulance turned and, without changing gear, raced down Great Maze Pond and dropped its precious burden at the Front Surgery.

On inquiry we found that the woman was hysterical, and this was her second and more convincing attempt to be taken in.

FROM the list of subscribers printed in this number it will be seen that the response to the William Gray Testimonial Fund has been immediate. It is good to see that William is so widely and universally appreciated. Subscriptions will continue to be acknowledged and should be sent to Dr. J. J. Conybeare, c/o *Guy's Hospital Gazette.*

Professor Pembrey—Appreciations

THE publishing of a valedictory to retiring members of the Staff is an old practice of the *Gazette*, which has always been a conscious presumption in its writer and not seldom a disturber of the peace of mind of its victim, and it is certain that Professor Pembrey will have hoped to be allowed to find quietness on the edge of Wychwood after getting in his last word at that pleasant Bridge House dinner in his honour. This time, however, the last word is ours, but it is one of true valediction, being full of good wishes for his continued success in the triple role of farmer, physiologist and ancestor. It is also fair comment on his character as man, colleague and teacher.

The *Gazette* would like to draw a vignette of him as a nippy half in his school team or as a smart young scholar of Christ Church, or as a member of a students' corps in Freiburg, but our knowledge of those almost incredible early activities is insufficient. At Guy's we have known him as the most clearly individuated member of the Staff, and nothing has been clearer than the fact that his life and character have been full of seeming contradictions. For example, he is a pugnacious critic of things as they are, and a firm believer that all things work together for good. He is a true Darwinian who speaks Darwinism topsy-turvily in the language of purpose. He was bred in Christ Church at its nuttiest, and has lived down the influence of that early companionship with complete success. He bans religious references in the Physiological Society of Guy's, and flavours his own teaching with Calvinism.

At heart he is a Tory in every sense of the word, and uses it as a term of obloquy. Even as a student of science, though himself a valiant breaker of new ground, he is what he would call a rank conservative. For him, the older the scientific dictum that survives, the likelier it is to contain a kernel of inviolable truth. An adage heard in rural Sussex may well be in essence the scientific discovery of to-morrow, and Claude Bernard or John Hunter is quoted with more respect than the makers of the most modern physico-chemical physiology. But these seeming contradictions are merely superficial, one aspect being the other presented obversely, and when Professor Pembrey has put forth a principle couched in homely terms, often clenched with a biblical quotation or illustrated with a domestic instance, only the foolish can have thought that sound physiology has suffered thereby. It would be interesting to know how much fundamental physiological principle unconsciously remembered through some quaintness of presentation has become the common sense of practice. No Guy's man is likely to forget that human beings are not all built to type and function by immutable rule,

that a pulse of 50 or a temperature of 99 may go with perfect health; in fact that each person is a mass of variants managing to survive by being aptly balanced to meet the demands of the environment. Nor will he ruthlessly discount the possible utility of pain and fever and other much decried events of life. But Professor Pembrey placed little faith in the preaching of physiology. His best work as a teacher was done among the laboratory benches. As an investigator his supreme instrument is the balance. "Thou shalt weigh" stands at least second on his tablet of the law.

Outside his department, Professor Pembrey has had a long and stormy career in educational politics, and often his own lost cause has become the policy of his opponents. But he will not have twitted many with the change of coat, for the last and best that will be remembered of him will be his marvellous good-nature and rare tolerance. It is pleasant to think that in his small laboratory in Oxfordshire will be many things to remind him that that unfailing friendliness was fully appreciated by a host of colleagues and pupils.

T. J. E.

IN Guy's, as in any great institution which owes ts energy and its fruitfulness to the sum total of services rendered by a large body of men, variously gifted, of strongly contrasted characters and of very different seniority, it may be true to say that no one man is indispensable. No doubt physiology will still be taught at Guy's as a real and living science even now that the long years of Pembrey's term of office have come to an end. No doubt at school meetings and committees of all sorts we shall grow used to hearing some other voice than Pembrey's raised in protest and remonstrance. Yet when a man who has played so big and bold a part in the life of the school withdraws from it, the loss is something very apparent and tangible. When a great teacher retires, it marks the end of an era. There was, no doubt, a time before Pembrey's—I never knew it—there was Pembrey's time, and now there is the future.

I first met Pembrey when I came to Guy's in 1902 for the University Scholarship Examination, and afterwards for a short course of preparation for the primary F.R.C.S. The six weeks of study, Anatomy with Fagge and Physiology with Pembrey, were to me extraordinarily helpful, and I have never forgotten the friendliness of the welcome that was given to me. On my way to the Examination Hall, I met Pembrey—doubtless, although I did not know his habits at the time, he was sallying forth at mid-day to that A.B.C. shop where he lunched and disputed daily with a chosen band—and his final words of advice and encouragement to me were shouted above the din of hansom cabs and horse 'buses on London Bridge Approach. With the exception of this short period, I was never Pembrey's student—I wish I had been; I could only deduce his quality as Head of the Department from the amazingly high level of success which he achieved year after year from first to last.

When I had finished my house appointments he chose me, perhaps in default of others, as his demonstrator, and for a very happy year I saw him daily at work. To me, as to all his demonstrators, he was unfailingly kind. He helped me with constant advice in my unskilled efforts in research, and he did his best to hide my shortcomings as a demonstrator from such bright boys in the M.B. class as were later to develop into Cook, Slesinger, Marshall, Todd and Izod Bennett. Later, when I became Dean, my association with Pembrey was mainly in committee. On all matters of policy and administration he held strong opinions. He was always clear in his own mind of the wisdom of the steps he advocated, and outspokenly indignant at the blindness and perversity of those who held the contrary opinion. When time proved him to have been in the right, as indeed it very often did, he was openly triumphant. Yet his well-known greeting, "What did I tell you?" gave no offence. That one who was so devoted to argument should delight in being proved to be in the right seemed in Pembrey's case as natural as that the victor in a friendly game of golf should rub it in a little when talk turned on such things. If Pembrey were ever to take to playing Bridge, he would, I feel sure, let fall his aces with an exultant crash.

Argument was to him a real recreation. He kept indeed for some 30 years a few stock subjects on which he could always fall back with other materials for a hot dispute were lacking. Birth-control, the feminist movement, and the manifold advantages of breast feeding were stock subjects for debate, ready to take the stage again if newer ventures failed. One of his greatest successes was the Physiological Society. Other societies at Guy's—the Debating Society, the Pupils' Physical Society, the Research Club, etc.—may have their ups and downs. That the Physiological Society has never flagged nor failed is due, I think, to this striking trait in Pembrey, that he was a supreme disputant and taught even the dullest student to think, to debate, and to argue. He takes with him to his farm in the country the good wishes,

the gratitude, and the admiration of many generations of Guy's men.

That his farming will prosper seems as certain as anything in Nature. When Lord Fisher told the midshipman that he was about to retire and devote his leisure to rose-growing, the comment was, " They'll damned well have to grow, Sir." And so with Pembrey. One cannot but feel that upon his farm stock there have been placed great responsibilities. Small litters, a declining yield of milk, and hens that forget their primary duty and lay away seem inconceivable on Pembrey's farm. That his farm may prosper, that his life may be long and happy, and that he may often be able to spare time to re-visit Guy's and the Physiological Department is the fervent hope of every Guy's man.

H. C. C.

Professor Pembrey Prologises

(*As conceived by a colleague in the " Gazette " in December*, 1928)

WOE is me that I was born to toil and fence
In an age of scientific insolence,
I, so fitted for the childhood
Of the race in tropic wildhood
Or the golden age of chastened common sense.

Where the phantom flares of science cannot blind
One of Nature's true disciples, there, I find,
Her serene and self-revealing,
While I tend my lonely shieling
With a simple unsophisticated mind.

And the lore that I have gained in field and pen
Will be lost in dust and silence once again.
For there isn't the remotest
Chance that this inspired protest
Will be honoured in the parleyings of men.

But though few or none may heed my scrannel pipe,
Truth shall triumph when the blundering earth is ripe,
For some mighty demagogue, an
Arch-apostle of the slogan
" Back to Nature " for the saving of the type.

Back to Nature. From the hour that we are weaned
We are ruined by the sterilising fiend.
Soon the old and tried defences
Will be scarce as common sense is,
And the race will die from being overcleaned.

Dirt's what saves the hiving millions of the slums,
And the stuff that clings to foundling sweets and crumbs
Beats all immunising serum ;
Hoc est paradoxum rerum.
Nameless vitamins are licked from grimy thumbs.
Food and plate should be as clean as coat or skirt.
Not a sterile stuff. Too much we boil and flirt
Sprays of lysol and carbolic.
Hark ! the mandate apostolic :
" Every man must eat his saving peck of dirt."

And though Medicine may grow from more to more,
Piling mountain-high its therapeutic lore,
It will never oust diseases
Till earth's final rigour freezes
Lingering life within the last bacterial spore.

Did not Nature institute the labial kiss,
And ensure its perennation with a bliss,
Just to propagate, *per ora*,
Our ordained gingival flora,
Lest the race its safe inheritance should miss ?

Yet you make a tender mite of two or three
Scrub into his bleeding gums with savage glee
Your corrosive dentifrices ;
And the little pervert ceases
With his jaws benumbed by chemocautery.

With a hundred pointed bristles you instil—
Mixed with antiseptic mucks that never kill—
Alien dosages of sepsis ;
And this drilling holes for streps is
Why some humourist has called it " Tooth Brush Drill ! "

Back to Nature with the households that are run
With the sacramental duties left undone.
What with bishops half agreeing,
Even the plebs has turned foreseeing,
And leaves accidental progeny or none.

Every spring such malefactors should be sent
For a moral cure in rural banishment.
Till the cows and birds and rabbits
Teach them purer human habits
'Midst the decency of Nature's old intent.

There, afield, the law is stern and holy writ,
Nature's law of propagation infinite ;
And she always finds the plenty,
Send she ten or send she twenty—
Or, if not, the few remaining will be fit.

When I put the human virtues to the test,
Fruitfulness comes first, and nowhere all the rest.
Yea, to me, of all things human
Loveliest seems a buxom woman
Fondling twins ascramble for the mother's breast.

Back to Nature with the quailing wives who creep
Into motherhood by selfish ways and cheap.
Back, to win the honour trifled
With, and functions that are stifled
During bouts of scopolaminated sleep.

Anœsthesia, upstart goddess, she has slain
Life's most faithful guard and trusted bugler—
Pain.
And the citadel's resources
Palsied lie, while hostile forces
Storm the battlements unchecked, and strike amain.

I abnormal ? Norms are figments dreamt by fools.
Nature works with most amazing sets of tools.
And there are no normal persons ;
There are better types and worse 'uns.
And exceptions do not prove—they *are* the rules.

One man starves on what keeps other folk alive,
And the filth in which a Crow papoose will thrive
For a Duchess would be septic.
Don't forget an epileptic
Ravaged Europe with a pulse of forty-five.

" Life, I know not what thou art," the poet saith,
" But an eddy of the all-creative breath."
And the men of science chatter
Of this thing that, striding matter,
Dares disaster through the million darts of death.

Some give years of vain endeavouring to spell
Life's conundrum in the dead and pickled cell
Some seek wisdom of Amœba,
But, unlike the Queen of Sheba,
Find *that* little Solomon has none to tell.

Others try experiment and set the switch
On a tissue bathed in Ringer, trace the twitch,
And would be as near to getting
At the vital secret's setting,
If they prodded dying donkeys in a ditch.

When they've linked up all the proteins, and massed
Them in polyphasic systems, then at last
They will crown the great endeavour,
They will stand and wait for ever
For the magic of the living protoplast.

Would that someone gained the technic competence
To make cultures of the genes of common sense,
And inject a few with cannules
In among the Nissl granules
Of our seekers for the vital how and whence.

" Life, we know not what thou art," will be the wail
When the biochemist's news are old and stale ;
But the man will still be frothing
Many a wise and pregnant nothing
With his back to life's impenetrable veil.

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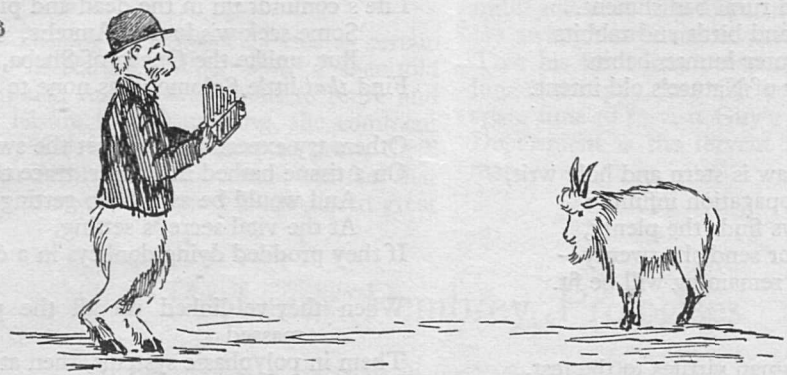

The Forsaken Goatherd Mourns his Departed Companion.

(*Reprinted from the Gazette of 15th November*, 1930

Alas, poor Hayward! Now thy heath is bare,
Thy dim retreats assume a quieter air.
No longer down thy green and leafy ways
Will Pembrey's lute recall the goat that strays.
Thy nymphs no longer now affrighted flee:
Thy hemidryads leave the sheltering tree.
The goat by man, the man by God misled,
For life's unreason seek a rule instead.
The goat, obedient 'neath an urban roof,
Pursues an erring path with blackened hoof;
The swain, excited by his callous muse,
Expands on Hunter and corrects Royle's views.

Dental Sepsis and its Relationship to Mental Dis

A Clinical Lecture by Arthur Bulleid, L.D.S., M.R.C.S., L.R.C.P.

(*Reprinted by permission of the* BRITISH DENTAL JOURNAL.)

" *Canst thou not minister to a mind diseased . . .?* "

WITHIN the last twenty or thirty years there has been a tendency for all mental hospitals to employ dental surgeons on their honorary staffs, and in consequence many dentists have had a unique opportunity of observing the effect of dental sepsis both as a cause and as an effect of mental processes. One has not to go back far into a dim past to learn that mental disease was considered as being entirely out of the sphere of general medicine, and to learn that " treatment " —preserve the irony—was restraint and segregation. That any physical disability could or did play any part as a causal agent in mental disease was not even considered, and that there could be any connection between disease of the mind and disease of the body was totally unworthy of credence.

During the last 20 years or so, however, the pendulum has swung round from the psychogenetic to the physiogenetic side, and a more recent tendency has been an attempt to explain the ætiology of mental disease from the physical standpoint. As is usual in these violent changes, the opinions of extremists have forced themselves to the fore and have for a period held the field. In the wake of the extremists have come a more reasonable band of thinkers, who have held the balance more fairly and accurately between extreme opinions.

The danger has always been that dogmatic statements of relief and cure of mental illness by various treatments have been made on too few cases, and as a rule by too incomplete observations on these cases.

Physiologists have shown that because a cell looks normal under the microscope it is not necessarily normal in function, and biologists assure us that there can be no function without construction. Cotton, in America, stated that in his investigations into certain types of insanity he found that a disturbance of the anatomical structure of the brain accompanied the mental symptoms. If the disturbance is of a transient character the brain will return at once to normal when it is removed, but if the disturbance is of a sufficiently lasting character there may be permanent alteration in the brain leading to a continuance of the mental symptoms. The disturbance caused by bacterial toxins is probably at first of a transient nature, and if removed allows the brain to return to normal. The criticisms of Cotton's work have now been fairly well crystallised, and will be mentioned later in this article.

It seems absolutely essential to point out that, in order to ascribe a definite physical lesion as being the direct cause of a mental condition, it is necessary to distinguish carefully between cause and effect. Take the following as exemplifying this point. A case of dementia præcox often gets lazy and neglects his teeth, which in consequence, when examined by the dental surgeon, show obvious signs of disease. Because the dementia and the dental sepsis are found together it does not necessarily follow that the latter is the cause of the former. In fact it is usually the reverse which is the truth—the dental sepsis is the direct result of the neglect by the dement. Take another example of this mistaking of cause and effect. A patient with hypochondria often notices or discovers all sorts of small physical ailments, some or all of which have in all probability been present for many years long before there was any suspicion of any mental symptoms. Of course, it can be argued that the continual absorption of bacterial toxins from various foci of infection had been going on for a sufficiently long period to have brought about a permanent alteration in the brain, but it is extremely difficult to offer uncontrovertible proof of this contention.

Again, if a physical lesion such as dental sepsis is the direct cause of a general systemic lesion it is generally possible to prove the connection by serological experiments. Dental sepsis is streptococcal sepsis, and if the infecting streptococcus is isolated either from the apex of an extracted dead tooth or from the depth of a pyorrhœic " pocket " and agglutination tests are carried out against the patient's serum, then a positive agglutination result in a fairly high dilution of the serum is tantamount to admitting that there is a definite connection between the dental sepsis and the systemic condition. In most cases it should be possible to obtain such a positive agglutination result if there is any connection between the dental sepsis and the systemic lesion, whether that lesion is physical or mental.

Speaking generally, most extreme cases of any kind of auto-toxæmia, if they are productive of mental symptoms at all, cause a psychosis the characteristics of which are classified under the heading of " Infective Exhaustive Psychosis." In this group there is no doubt that removal of septic foci, such as dental, does lead to amelioration and even cure of the mental condition. Such cases are really cases of bacterial toxæmia—usually streptococcal—and the removal of the sepsis results in the betterment of the mental lesion just as it would if the systemic lesion were a secondary anæmia or an infective arthritis. If the psychiatrist can assure the dental surgeon that the mental symptoms are in keeping with a physiogenetic cause, then all other conditions being observed such as the absence of any other obvious and adequate cause, and a positive serological confirmation, dental sepsis may rightly be ascribed as the most probable cause of the mental illness. Experience of many cases of insanity is, however, now tending to support the contention that with the exception of the infective exhaustive psychoses practically no mental illnesses are the direct result of physical ailments.

Even after taking the most careful observations during the treatment of mental patients it is extremely difficult to state definitely the role that sepsis plays as a causal agent. Some mental illnesses, speaking generally, have a good prognosis; take, for example, a case of simple depression or a simple maniacal attack. In such cases recovery would normally be anticipated without any special treatment, and yet if during the period of the illness dental sepsis had been eradicated it might be quite possible to ascribe the recovery to the dental treatment. This would be erroneous, and yet such cases might be cited as proof of a physical ailment causing a mental condition.

Another common mistake made is to confuse the effect of dental treatment and the effect produced by the physician and the dental surgeon both paying marked attention, and also a lot of time, to the patient during the general investigation of the condition, during the dental interference, and during the period of " after-care " of the patient. It is accepted now by many psychiatrists that one of the great factors in mental therapy is the time intelligently devoted to the patient. In other words, suggestion plays a large part in the treatment, and the favourable results sometimes claimed by the removal of dental sepsis may in reality be due to the " suggestion " advanced during the course of treatment, rather than to the removal of the sepsis.

A patient is assured that the teeth are unhealthy and are causing his illness, and that putting the mouth in order will undoubtedly help him to get better. This suggestion is carried through the dental interference and into the " after-care " of the patient, with the result that in a certain proportion of cases the patient does improve. All fair-minded observers, however, must realise how impossible it is to state dogmatically whether the removal of the dental sepsis or the " suggestion " were the cause of the betterment of the patient. Both lines of treatment were important, but who could honestly say which was the chief factor in the improvement of the mental condition? This is merely an example of the value of the removal of dental sepsis without in any way being proof of the causal effect of such sepsis on the mental condition.

It is unfortunate that it is so difficult to obtain " control cases " in attempting to estimate the value of dental treatment in mental cases, because then it would be more possible to give accurate figures. In spite of the fact that no two cases seem alike, it is always advisable to attempt to check results by the use of carefully selected " controls," even if such cases are difficult to obtain, as it does help to avoid obvious fallacies. If the so-called " control cases " are treated in exactly the same manner as those for which dental work is undertaken more reliable figures as to the results of the dental treatment can be obtained. Exactly the same time, care and suggestion are expended on the " control cases," though, obviously, the suggestion treatment will differ as no dental interference is being carried out. If a sufficient number of cases can be collected and treated on these lines, then valuable data will be obtained.

This is one of the criticisms that have been advanced against Cotton and Hunter. It is suggested by many mental specialists that neither of these observers used adequate controls and that there was an indiscriminate selection of patients for treatment on their lines, and that they attributed cure too often to the removal of septic foci in cases which would in all probability have recovered in the ordinary course of events without any specific treatment. Further, it is pointed out by many investigators that physical illnesses may be the starting point of delusions. For instance, pyorrhœa may give rise to delusions of food-poisoning. In such cases, local relief, that is, the treatment of the pyorrhœa—which, it should be added, should always be given—will help to cure the " local " delusion, but will not in any way help to better

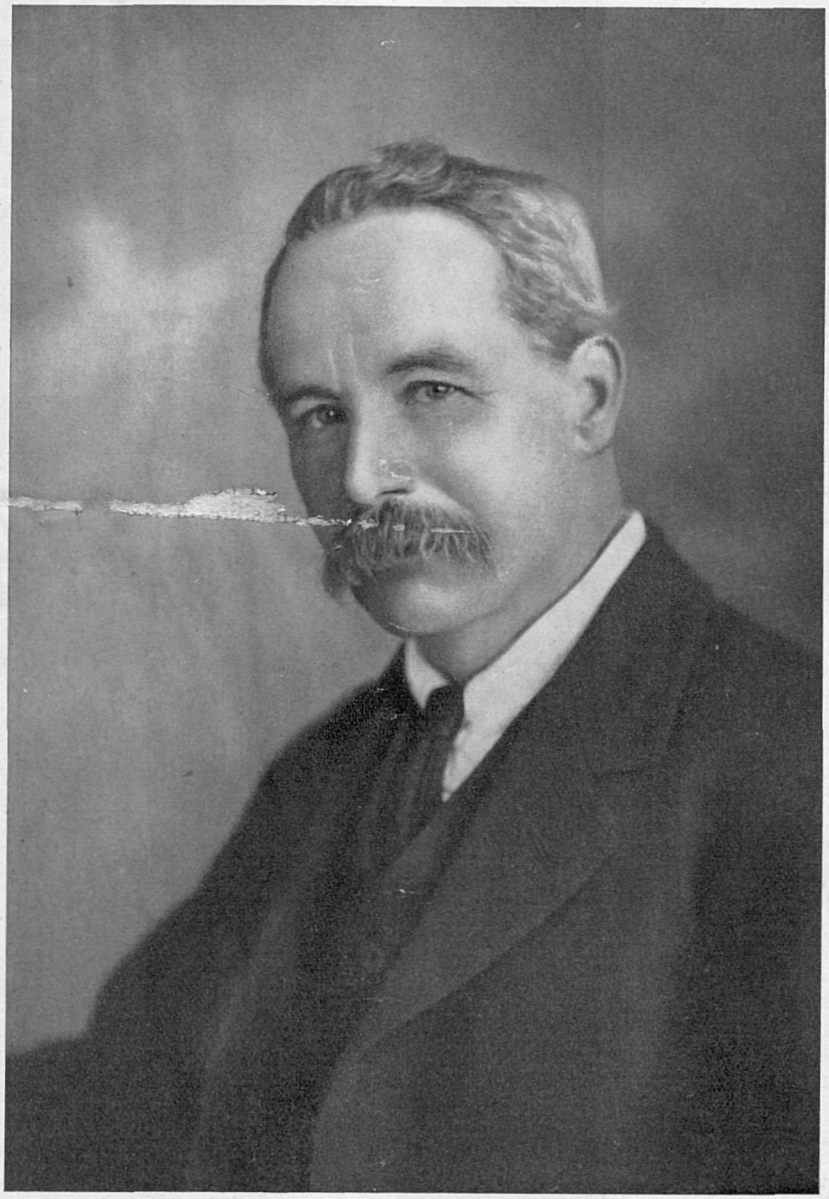

Photo by Elliott & Fry, Ltd.

PROFESSOR M. SEYMOUR PEMBREY, F.R.S., M.D.

the general mental state unless it is coupled with "suggestion" treatment by the physician.

In all cases in which the eradication of dental sepsis is indicated, and in a great many cases, whether the sepsis is the direct cause of the mental condition or not, it is advisable from the point of view of aiding the general physical health that such sepsis should be removed, it is essential to know accurately the exact dental state and the degree of toxic absorption. This entails a knowledge of the right time to interfere and also the rate at which dental treatment shall be carried out, and coupled with these facts must come the mutual co-operation between the patient and the dental surgeon. This should, in all cases, be determined by the physician in charge of the case, and is of the utmost importance, as actual harm may easily be caused by dental treatment given at the wrong time. It is not too widely accepted, but patients suffering from melancholia quickly lose confidence if they are robbed of teeth whilst still in the acute depressive stage of their illness. Anxiety cases, too, get more frightened and anxious if dental treatment is carried out too soon, and in such cases the value of the treatment may be nullified and may even be actually harmful if carried out at the wrong time.

It is essential that most dental treatment should be carried out slowly and this is particularly the case when it necessitates the extraction of teeth. One can go further and say that the extraction of "pulpless" teeth showing "apical osteitis" in skiagrams must be carried out with the utmost circumspection, as the reaction on the patient is generally very marked. "Open" sepsis of the pyorrhœic type is less likely to cause reactions, but even then the greatest care should be taken not to overdo the amount of treatment at one sitting. The policy of "ca' canny" really is justified in carrying out dental treatment for the mentally afflicted even when a violent reaction is not anticipated from toxic absorption.

All cases which present acute dental symptoms such as acute alveolar abscess must, of course, be relieved whatever the mental condition, but then the treatment is merely to relieve the local dental lesion and is not in any way a specific treatment for the mental ill.

In cases of general paralysis of the insane dental treatment and the manner in which it is given is of particular importance. As a general rule it is advisable to postpone the dental as well as all other forms of treatment until after the completion of a course of malaria, and then all the precautions already mentioned should be observed. In those cases of general paralysis which are not given malaria, the dental treatment should not be given until the physician gives the word, and then the rate should be carefully regulated by the resultant reaction as observed by the physician.

The conclusion that one is drawn to is that dental sepsis *per se* is hardly, if ever, the cause of any mental illness, and even when coupled with infection in other parts of the body can only accurately be described as the specific cause, amongst other similar specific causes, of the mental condition in the group known as the infective exhaustive psychoses, or very rarely in some other forms of psychoses. It is so easy to ascribe cure of a disese, even a physical one, to a certain line of treatment because betterment has come after the institution of such treatment, when in quite a large percentage of cases the same result might well have been obtained with no specific treatment at all.

Allowing, however, that most mental illnesses are not the direct result of physical ills, this does not mean that eradication of sepsis, whether dental or otherwise, is contra-indicated and should not be undertaken. Just, however, as it is most unwise to promise either cure or amelioration of mental symptoms by the removal of dental sepsis, so it is even more unwise to plunge precipitately into the removal of such sepsis at the wrong moment and at the wrong rate. The likelihood of making matters worse by the injudicious extraction of teeth is much more probable than spectacular results by the same means, and at all times it is essential to obtain the patient's co-operation.

One would like to stress the importance of carefully investigating the reports of cases purporting to depict cure of mental ills by the removal of septic foci as in so many cases the figures are fallacious for the various reasons I have endeavoured to explain in this article.

As a last word I should like to state that in my experience it is essential to weigh up the effects which may be produced in the mental patient before one commences dental treatment. An absolutely accurate diagnosis of the mental state must be made by the physician and the closest co-operation observed between the patient, dental surgeon and physician at all stages of treatment, or else confusion will be made worse confounded.

Short Visits to Near Clinics: I.—Edinburgh

FEW will doubt the value of a lengthy visit to a distant clinic. Unfortunately, many of us cannot afford this, and none of us can do so as often as we would wish. The short visit to a near clinic is less often made, and yet it forms an excellent substitute by stimulating thought, by giving new ideas, and by showing that it is not only the new that matters and that many old things of value are in existence outside Guy's. It is to encourage such visits and in the hope that others will write on them that I compile these notes.

The occasion of the visit was a combined meeting of the Scottish Oto-Laryngological Society with the Laryngological and Otological Sections of the Royal Society of Medicine. The night train reaches Edinburgh at 7 a.m., and the meeting was billed to start at 9.30 a.m. As the subjects for discussion were too deep, I went instead to the City Hospital, which is the infectious Fever Hospital of Edinburgh.

Dr. Benson had recently published a paper on the treatment of septicæmia (*Lancet*, April 22nd), based on two series of cases of puerperal sepsis in which the treatment had been the same, except that in one series no serum had been given and in the other it had. Investigations had extended over six years. It is possible that after puerperal sepsis osteomyelitis of the mastoid bone accounts for the largest number of cases of septicæmia, and a conversation with Dr. Benson on this and other points was of the greatest value. It is interesting to note that papers of that type came almost entirely from the Scottish schools—*e.g.*, *Lancet*, 1930, vol. ii, p. 1387 (Glasgow); 1932, vol. ii, p. 8 (Glasgow); 1930, vol. ii, p. 1390 (Edinburgh). It may be a matter of discussion as to whether this is due to the conditions under which they work or to the character of the Scottish mind. It is the only way scientifically to assess the value of any new drug.

The surgeons to the Infirmary, both in the General and in the Throat and Ear Departments, had arranged to perform operations of interest to oto-laryngologists. I saw Prof. John Fraser and Mr. Henry Wade; the former was operating for the first time in a theatre that had been entirely re-built and re-equipped. It was that in which Lister once worked. The operation for tuberculous gland in the neck is a traditional one at the Edinburgh Royal Infirmary, owing to the fact that the Medical Officers of Health have not been able to get that supervision of the milk supply that is possible in London. My memory of Sir Harold Stiles doing a block dissection of such glands is a vivid one. It is difficult to compare a ten-year-old memory with things seen to-day. Though the case was a lesser one, it is certain the technical skill was no less. The patient on whom Mr. Henry Wade had intended to show us the operation of laryngectomy had not turned up, so I saw a prostatectomy instead. The patient was an elderly Scotsman, well used to his liquor. Mr. Wade pointed out that the man who stood his alcohol well stood his nembutal well, and the operation was done under this with spinal anæsthesia. A large pocket in the bladder had first to be dealt with and a large irregular prostate was then removed. It was interesting to note that the electric sucker that was in constant use was placed in a cupboard the doors of which were flush with the surface of the wall. This saved space on the floor of the theatre and the sucker worked well. The electric torch placed in the bladder worked less well. When in the Sister's hands the illumination was excellent, but as the surgeon inserted it it went out. It is a way that electric apparatus has.

The afternoon session was the spring clinical meeting of the Scottish Oto-Laryngological Society. This is the most remarkable assembly of clinical material to be seen anywhere. Touch is kept with cases that come up to the department during the whole of the previous year. End-results, good and bad, are shown, and the cases divided into groups to make discussion easy by their association. The only criticism that can be raised is that there is too much to see in the time, and rapidity of thought had been hampered by the lunch that had been given us at the Royal College of Surgeons. Dr. Logan Turner showed several of us the portraits there, including two of the Monro's and Joseph Bell, who was Conan Doyle's original of Sherlock Holmes.

The day had been rainy and cool; towards the end of the afternoon it began to get warm, and on a hot, fine night we saw a sight for which alone it would have been well worth while to visit Edinburgh. In honour of a congress of engineers the Castle was flood-lit. From Prince's Street across the Nor' Loch the fortress showed up better than any other building that I have yet so seen.

The Saturday morning was taken up with further papers and more operating, but the Whitsun heat-wave had begun and by mid-day all were thinking of the sea-coast and the country.

It should be a rule that anyone who pays a visit such as this should not only learn some medicine,

but also should give some time to other things. And the time should be divided between the place itself with its historic associations, its literature and its art and the surrounding country. Knowing Edinburgh fairly well, I did but little of the former, though I walked through the National Gallery to see the Raeburns, especially Lord Braxfield, the original of Stevenson's Lord Justice Clerk, and to lament the absence of John Ferguson of the Brae, which I believe to be the finest example of the portraiture of boyhood. But if on this occasion I saw but little of the city, I had a special opportunity of seeing the surrounding country, for Mr. Henry Wade, whom I had known in Palestine, took me out to his country house at Pilmuir. This is a perfect example of a lowland manor of the early 17th century, the house of a bonnet laird build in 1634 and to-day recorded and described by the Historical Buildings Commission. It is built of stone with a winding stair to the upper stories and stands in a large garden surrounded by a roofed wall, and in the middle of the garden is a dooket with pigeon holes for nigh a thousand birds. These used to give the only fresh meat throughout the winter till the turnip came, on which to keep their beasts alive. The London Scot must have a poor idea of beauty; perhaps he has been spoilt by our home counties. Several had warned me against the country between Edinburgh and Berwick-on-Tweed. Ugly, dull, and such-like were the terms they used. And here was a gem unbeaten by any Tudor mansion or farmhouse in our own eastern counties, and set in a countryside that is the most fertile and highly-cultivated in our land. And if one cannot see beauty in land that has been transformed by the hand of man, behind it are the Lammer moors.

At 6 p.m. Mr. Wade dropped me near these at the little town of Gifford, from which I set out for the moors along the old road to Duns. It had set in very hot during the afternoon, and still was so in the early evening. With the sun behind me nearing the horizon the play of the lights upon the hills made these reflect the rays in a thousand tints. I can well imagine that these moors may have a sterner aspect under different weather conditions, but even then they must have a grandeur that in itself is beauty. Let those Scotsmen who decry this part of their country do this walk under the conditions I did it. I had thought of sleeping out, but became too heated and was also lonely, so pushed on and reached Duns at 12.30 on Whitsun morning, being lucky to find an inn where one had not gone to bed. I will admit the last miles were somewhat painful; the A.A. signs made it 25 miles, but this reckoning must have fetched a compass by the new road, for the map says 20.

I am glad I did that walk at night, for the sun beat down mercilessly next day, and, having had my exercise, I could remain indoors and attend the kirk with clear conscience till even-time, when I took a bus to Berwick and caught the night express to London.

T. B. L.

William Gray Testimonial Fund

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A Cricket Match

Mr. Mollison's Team v. Mr. Layton's Team

ON a glorious summer day towards the end of July representatives of these two firms, senior and junior, indifferent and bad, went down into the country to play a friendly game of cricket on the village pitch of the Roe Green Cricket Club. There, in the middle of

Hertfordshire, near the larger town of Royston, they spent a most enjoyable day. It was also an amusing one, certainly at any rate for the players, and probably even more so for the few rustic spectators who, we could see, took their cricket seriously. After a good day's cricket the game was declared a draw, with the balance rather in favour of Mr. Mollison's side.

It was late in starting; it was not until 12.30 that all the stragglers had appeared, and even then Mr. R. J. Cann had not arrived. Mr. G. Gilchrist (Mr. Layton's H.S. and captain of the Layton team) won the toss and decided to bat first. There was great competition among the Mollison team as to who should be hailed as bowlers. Most were accepted, but the claim of Mr. Baker, put forward on the ground that he had an uncle who was good at it, was disallowed. This boasting of their bowling was but a part of the propaganda that had been issuing for the previous week as to the wonderful skill of the Mollison team. It certainly had the desired effect, for with the first ball of the match the first wicket fell, and within three overs five wickets had been secured for two byes, and these only were obtained owing to the fact that the long-stop was a substitute for Mr. Cann.

In the next over matters improved, because Mr. Mollison had been put on to bowl and scored two wides for the batting team. That this over was not the longest of the match was due to the fact that the batsmen covered with their bats several other balls that would have been wides. The rot was stopped by Messrs. M. J. McArdle and Mr. J. M. McArthur, who put up six runs for the sixth wicket. At this point the teams retired for lunch.

After lunch, runs came more quickly, and the placing of the field had most carefully to be adjusted by Mr. Hogbin for the Mollison team. Not a man was allowed to be one foot out of place, except Mr. Baker, who occupied a spot previously booked by a cow. The great event of this innings was the last wicket stand by Mr. Layton and Mr. Geidt, but whether this was due to the head-gear of the batsmen or to the beer we are unable to determine. The innings closed for 74. Mr. Layton carried his bat for a vigorous 20, easily top scorer for his side.

Messrs. Mollison and Cann were then seen approaching the wicket, and the bowlers appeared to be selected owing to their position in the firm rather than to any skill in the art. The batsmen did not hit many balls, but the few that they did hit happened to be the only straight ones. It soon became necessary to put on the demon bowler of the side, Mr. De Gruchy. Mr. Geidt, who kept wicket, stood far back, but the fielders who were most busy were the two long-stops, called by Mr. De Gruchy fine leg and first slip. The bowler introduced a modification in wides by placing them over the heads of the batsmen. The latter, however, soon learnt that by jumping up and tapping these balls they could score four for the boundary instead of one for the wide. Keeping one of his full pitches low, Mr. De Gruchy took the wicket of Mr. Mollison, and followed it with one good ball that secured that of Mr. C. H. Johnson.

After a useful stand by Mr. Baker, Messrs. G. V. Doherty and R. A. P. Hogbin started to play forcing cricket. Step by step the field retired further out, and a new brigade was brought in to help. Mr. McArthur over the wicket, Mr. M. J. McArdle and Mr. McArthur round the wicket, bowled their best, till Mr. R. McArdle brought off a brilliant catch in the long-field by falling supine among the reeds. George II, having made a bright 35, shortly after returned the ball into the hands of Mr. M. J. McArdle. Two more incidents occurred in this innings, which closed for 117. The first was concerned with the doubts of Mr. Crowther Smith as to whether he was out leg-before-wicket when hit on his thumb, and the second was the attempt by Mr. Irish to use his bat as a golf club in a way that was a handicap to his cricket. The company then retired for tea.

After the interval the Layton side batted again, this time in reverse order, and in much better style. Mr. Layton, Mr. Boland and Mr. Gilchrist all showed us how we should have dealt with the bowling in the first innings, and how easy it was to step out to the pitch of the ball and hit it. When stumps were drawn the score stood at 102 for 9.

Thus ended a most entertaining day. Its success was in large part due to the excellent lunch, tea and beer provided at the local inn. It only remains to thank Mr. Layton for arranging the match and for the way in which he so generously catered for our tastes.

Correspondence

Water Divining

To the Editor of the GAZETTE

SIR,—It seems somewhat extraordinary that two scientists of repute such as Dr. Lintott and Dr. Lees should suddenly become so utterly unscientific.

To condemn a theory without experiment is bad enough, but when they condemn it for such an obvious fallacious reason the matter becomes ludicrous.

Let me elaborate my method of finding the depth. To me, and to some other dowsers of my acquaintance, the rod appears to pull with a fairly even strength over the whole width of a stream. There is a sudden falling off in the strength of the pull when the edge of the stream is reached. On going still further, there is a gradual diminution of pull, followed by a sudden complete cessation, as sharply marked as the sudden falling-off felt at the edge of the stream.

If the distance to the "cut-off" point is measured from the edge of the stream, it must surely be obvious that the width of the stream cannot enter into the calculations.

In conclusion, I can only repeat my offer to help in any experiments which the Directors of the Research may devise.

Yours, etc.,

J. M. LEA.

Guy's Hospital,
S.E.1.

To the Editor of the GAZETTE

SIR,—I have lately contracted the quite unwarrantable habit of reading your correspondence columns. Believe me, Sir, they are amazing! They must be quite qithout parallel anywhere—in any magazine.

In one letter a learned doctor, commenting on an article by one of our water-divining Physiologs, suggests (one hopes qithout malice) that dowsers retain something called a "lateral line." Why, goodness gracious, Mr. Editor! What midsummer madness is this? I really must call upon all self-respecting dowsers strongly to protest against this outrageous suggestion of their piscatory origin. Surely, Sir, the doctor did but say this in jest, or was he flinging us a red herring?

Then again, Mr. Editor, when a good-natured dowser pledged himself to co-operate in the now famous hazel-twig experiments (or pranks), how did our "soulless scientists" reply? They turned upon him like a pack of wolves (the ingrates!). They howled with derision! "Ha, Ha!" said they. "Let A-B-C be a triangle," said they, etc., etc. A great deal more they said, inferring that the dowser had been naughty to interfere, and, further, that his naughtiness could be proved (*sic*) on a simple scientific basis. Altogether a most tawdry affair, Mr. Editor!

But then, Sir, words fail me! One, Pea Blossom by name (a curious name!), had such strange and violent things to say, I could not for the life of me understand them. I began to doubt my eyes, or his reason. Why, Sir, did he so cruelly rail against the many nice and gracious qualities of some unknown individual? He might well engage in any one of the "uplifting" pursuits he so viciously condermns with great profit to himself and amusement to others. What price folk-dancing in the Park? Such a harmless diversion, Mr. Editor; notices might be planted, "This Lawn is Strictly Preserved for the 'Shepherd Hey'."

Finally, Sir, might we not have a side show in the nature of a dowsing demonstration outside the Library windows—or is there no *running* water underneath?

Yours, etc.,

E. D.

The University Union,
68, Torrington Square,
W.C.1.

Bermondsey Settlement

To the Editor of the GAZETTE

SIR,—I have been approached by the Time and Talents Settlement of Bermondsey Street, S.E.1, with regard to a pressing need of the present time. In connection with the Settlement are run a boys' sports club and an unemployed men's club. It is for the sports side of these clubs that leaders are wanted. Indoor sports and athletics are practised, and, in addition, running and football. The last, I gather, is played on a large flat roof with netting walls! Wednesday evening is the most important time for which help is asked.

I shall be very glad to arrange to introduce any who can and will help to the Settlement Secretary, if they will see me in the Children's Department or in the College at lunch time.

Yours, etc.,

F. HARWOOD STEVENSON.

Guy's Hospital,
S.E.1.

The Notices

To the Editor of the GAZETTE

SIR,—We read your "Passim" of July 9th with interest and amusement. May we, however, suggest a slightly different train of thought?

The Nurses' Representative Council (existant, incidentally, since 1925) thought the matter of "the notices" too trifling for discussion on the occasion of a Council meeting. We understand that the attitude these notices were thought to reveal was purely accidental, and that neither "social nor sexual distinction" was intended, but that nothing more or less than the thoroughness of the Works Department was responsible for the excellently constructed though somewhat noticeable "notices."

Quite true it is that within living memory a pedicled and moss-grown edition of these notices could have been observed. These, however, disintegrated with age, creating the necessity for new and improved notices.

We hope that we may have enlightened those who have offered the many extraordinary explanations current among nurses and students and thrown a somewhat different light upon the situation.

Yours, etc.,

THE NURSES' REPRESENTATIVE COUNCIL.

Guy's Hospital,
S.E.1.

Reviews

Some Thoughts on Asthma. By A. J. D. CAMERON, M.B., Ch.B. Published by Messrs. John Wright & Sons, Ltd., Bristol, and in London by Messrs. Simpkin, Marshall, Ltd. *Price 7s. 6d.*

HOW often the consulting physician rushes in where academic angels fear to tread! Thus, reading on the very first page that the results of the author's treatment of asthma were "gratifying," we felt that with the early appearance of that unfortunate adjective we could recognise the volume at once as one of those practice-producing pot-boilers which congest rather than clarify an already overcrowded literature. We must admit to some surprise, however, at finding the second portion of this work devoted to an account of the results of an apparently extensive biochemical investigation of patients, an investigation which, from a perusal of the section on treatment, would seem to be quite pointless apart from lending a doubtful measure of support to the author's theory as to the nature of asthma. The elaboration of this theory and the recommendation of a line of treatment based upon it appear to us to be the main purposes of the book.

The theory is that the asthmatic individual suffers from what may be termed a "basic toxicosis." Data from a broad biochemical field including Oriel's well-known urinary phenomenon, are brought together in order to incriminate the intestinal canal as the primary source of the so-called intoxication. Well-established findings such as the slightly lowered alkaline reserve and the increased amino-nitrogen of the blood are further confirmed in an unstated number of cases and on page 800, in the summary of the biochemical section, the author considers that he has established "as complete proof of the original claim as it is possible to obtain to-day . . . the basic toxicosis is primary (*sic*), intestinal and hepatic," a conclusion, singularly enough, that other observers of the same biochemical phenomena have entirely failed to reach. Although it is hinted that the small intestine and in particular the duodenum is the main source of toxic absorption, the treatment section stresses colon washouts as the first and most important measure in what is termed "active detoxication," in fact, this is the only form of treatment in any way specific that is wholeheartedly advocated.

We quite comprehend that this book in no way attempts to encompass a general discussion of its subject, and that it has for its main object the propagation of a single point of view, namely, that of its author. It is surprising, however, to find at the present time a complete dismissal of the subject of hypersensitiveness in any work that represents itself as a study of the asthmatic state.

We are also aware that for all the recently acquired knowledge of human atopy, allergy and so on, the treatment of asthma and allied diseases is still far from satisfactory—that, in fact, active desensitisation specific or non-specific to offending agents is largely disappointing and avoidance frequently impracticable, yet we are not prepared to give up the further exploration of a field of tremendous scientific and clinical importance in favour of a return to the outworn "Lane" idea in still another form, and this time without even the constipation bogey to back it up. That the asthmatic patient presents a very definite biochemical picture seems well enough established. That the alimentary canal is frequently a portal of entry for an offending substance is also quite clear, but that the offending substance need of necessity be a toxin or, indeed, anything other than unchanged protein or the normal products of protein digestion remains to our mind still not proven. In any case, it would be just as logical to starve the patient as to give him colon wash-outs on the lines advocated by the author's argument. Evidence that the healthy intestine of the normal individual is far more permeable to the larger protein molecules than might be expected is rapidly accumulating, and it therefore appears that the asthmatics' abnormality is one of altered reaction rather than of altered absorption. That various seemingly unconnected non-specific factors may influence this state of altered reactivity is equally evident, and we look for an ultimate interpretation of the effects of such well-known factors as humidity, altitude, fatigue, menstruation, pregnancy, etc., on quite a different and perhaps a common basis.

This book is, perhaps, not entirely to be deplored at a time when the asthmatic wood is barely to be seen for the multitude of allergic trees, but the withdrawal of a biochemical clinician to the battered concept of an intestinal toxæmia makes far from stimulating reading.

E. T. C.

Food and the Principles of Dietetics. By ROBERT HUTCHISON and V. H. MOTTRAM. Published by Edward Arnold, 1933. Pages 630. *Price* 21*s.*

AT this time, when dietetics is to the fore in general as well as medical interest, we welcome a new edition of Dr. Robert Hutchison's well-known book. First published in 1900, it has justly become the standard work of reference in this subject. In this, the seventh, edition the author has the co-operation of Professor V. H. Mottram, who has practically re-written the first three chapters. In the whole work, however, additions and alterations have been made and the numerous charts brought up to date for modern food prices.

Not only is the book extremely well arranged for reference, but many chapters, such as those on Alcoholic Beverages, make fascinating and interesting reading. The print is clear and the charts handsome. It would add to the value of the book if there was one large chart of the composition and calorie values of standard amounts of all the common foods for quick reference in making out diet sheets.

We strongly recommend this excellent book, and feel that no practitioner can afford to be without it.

Sport

Cricket

Guy's v. St. Anne's

PLAYED at Virginia Water on Wednesday, May 31st, and resulted in a win for the Hospital

Scores—Guy's, 186; Virginia Water, 110

Virginia Water

R. Devine, l.b.w., b. Foster	29
Jarvis, st. Gillham, b. Whitteridge	5
Illingworth, did not bat	0
Blaber, b. Wylde	5
A. G. White, b. Whitteridge	6
Hawkes, b. Lowry	28
Rev. W. Harding, b. Whitteridge	22
Davey, b. Whitteridge	4
Willis, c. Moore, b. Lowry	1
Flaherty, not out	2
A. Long, b. Whitteridge	1
Extras	7
Total	110

Guy's

G. M. A. Brown, b. Hawkes	13
C. G. Wright, c. Blaber, b. Hawkes	30
H. Cameron, c. and b. Hawkes	16
P. D. Wharton, l.b.w. Willis	0

S. M. Whitteridge, l.b.w. Willis	69
A. G. Heberlein, b. Harding	0
E. A. Moore, b. Hawkes	12
T. J. Lowry, b. Devine	15
N. E. Gillham, b. Devine	8
H. Foster, not out	13
W. Wylde, c. Jarvis, b. Willis	2
Extras	8
Total	186

Bowling.—Whitteridge, 5 for 45; Lowry, 2 for 29; Foster, 1 for 17; Wylde, 1 for 12.

Guy's v. Catford Wanderers

PLAYED at Honor Oak Park on Saturday, June 3rd, and resulting in an easy win for Catford.

Scores—Guy's, 111; Catford Wanderers, 170 for 3.

Guy's

G. M. A. Brown, b. Everet	7
G. G. Wright, st. Fear, b. Everet	16
H. Cameron, b. Everet	0
G. V. Doherty, b. Freeman	0
J. A. G. Starnes, c. Henderson, b. Hook	21
S. M. Whitteridge, b. Hook	13
P. D. Wharton, run out	1
E. A. Moore, b. Lee	2
T. J. Lowry, not out	13
N. E. Gillham, c. Langford, b. Hook	31
R. L. Evans, b. Everet	3
Extras	4
Total	111

Catford Wanderers

F. D. Read, l.b.w. Doherty	33
C. W. Langford, b. Whitteridge	46
E. K. Bracher, c. and b. Wright	31
A. F. Simpson, not out	24
R. E. Rossignol, not out	15
Extras	21
Total (for 3 wickets)	170

Bowling—Wright, 1 for 5; Doherty, 1 for 25; Whitteridge, 1 for 39.

Guy's v. Catford Wanderers

PLAYED at Catford on Wednesday, June 7th, and resulting in a win for Catford Wanderers.

Scores—Guy's, 193; Catford Wanderers, 195 for 5.

Guy's

G. M. A. Brown, b. Everett	1
T. S. Eddy, b. Freeman	12
C. G. Wright, b. Everett	126
S. M. Whitteridge, b. Allen	11
P. D. Wharton, b. Allen	0
E. A. Moore, c. Everett	14
H. Jones-Lewis, c. Lee, b. Allen	15
N. E. Gillham, b. Everett	0
T. J. Lowry, b. Everett	12
H. D. Foster, l.b.w. Freeman	0
W. Wylde, not out	0
Extras	2
Total	193

Bowling—Wylde, 2 for 26; Lowry, 1 for 75; Whitteridge, 1 for 41; Foster, 1 for 51.

Rifle Association

THE Armitage Cup has evaded this Hospital now for the past six years, but, after a brilliant all-round shoot by the team in the last round of the competition, it has returned once more to Guy's, and it is hoped that it may play its part in adorning the "Spit" for some time to come.

The competition is fired in three stages, and in the first stage St. Mary's were leading with Guy's 13 points behind. This order was reversed in Round 2, Guy's leading by 8 points from St. Mary's and London, who tied for second place. In the third round London dropped a lot of points, and the issue then rested between Guy's and St. Mary's, both of whose final scores were higher than any others put up in the previous rounds.

Guy's eventually won by the useful margin of 16 points, the average score per man being just over 96. The team scores and round by round positions are as follows:—

	1st Round	*2nd Round*	*3rd Round*	*Aggregate*
(1) Guy's	(2) 540	(1) 557	(1) 577	1674
(2) St. Mary's	(1) 553	(2) 536	(2) 569	1658
(3) Bart.'s	(4) 533	(4) 541	(3) 553	1627
(4) London	(3) 534	(2) 555	(4) 531	1620
(5) St. Thomas's	(5) 527	(5) 520	(5) —	—

The Hospital Prize Meeting was held concurrently with the third round of the Armitage Shoot, and the following gained awards :—

Newton Pitt Cup—
- Highest Aggregate ..... C. L. Stevens.
- Second Aggregate ..... R. F. Parfitt.
- First Handicap .... D. W. Harvey.
- Second Handicap ..... A. Black.

Range Prizes—
- 200 Yards .... R. F. Parfitt.
- 500 Yards .... D. W. Harvey.
- 600 Yards .... A. Black.

Tyros .... R. F. Parfitt.

Individual scores were :—

	200 yds.	500 yds.	600 yds.	*Aggregate.*
C. L. Stevens	33	34	31	98
R. F. Parfitt	32	33	33	98
A. Black	31	32	34	97
G. C. Denny	31	33	32	96
D. W. Harvey	31	33	31	95
F. J. C. Matthews	32	30	31	93

C. L. Stevens is to be heartily congratulated on his fine aggregate score for the three shoots—298 out of a possible 315—and we feel that the success of the team was due almost entirely to the amazing piece of coaching put in by him and C. Boswell, who so kindly gave us his expert assistance during the last rounds.

We can now only hope that similar results of their good work may reward them once more on the occasion of the United Hospitals' Cup to be competed for shortly.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
July, 1933.
Medicine.
* J. B. Frumin.
Forensic Medicine.
H. N. Levitt T. Morgan
H. B. Thornton
* Now holds Diploma.

LONDON UNIVERSITY.
SECOND EXAMINATION FOR MEDICAL DEGREES.
PART II.
July, 1933.

O. B. Alakija
J. L. Bates
G. L. Burgess
G. D. Channell
K. Chartikavanij
H. R. W. Franklin
D. H. Mackay
G. D. N. Milne
F. E. Pitt Payne
T. G. Protheroe
A. D. Willis

Papers by Guy's Men

W. H. Bowen. Acute idiopathic epididymo orchitis. *Clin. J.*, 1933, lxii, 290

M. Campbell. High blood pressure. *Clin. J.*, 1933, lxii, 270.

W. Smith, C. H. Andrewes and P. P. Laidlaw. A virus obtained from influenza patients. *Lancet*, 1933, ii, 66.

C. Bramwell, M. Campbell and W. Evans. Harmol hydrochloride and O-N-propylharmol lactate in angina pectoris. *Lancet*, 1933, ii, 69.

A. C. Hampson. Jaundice in newly born. *Pract.*, 1933, cxxxi, 59.

R. V. Bradlaw. Neuralgia. *Pract.*, 1933, cxxxi, 87.

A. F. Hurst. Unity of gastric disorders. *B. M. J.*, 1933, ii, 89.

C. S. Morris. Porcelain restorations. *B. D. J.*, 1933, lv, 66.

S. J. F. Webb. Dall technique. *B. D. J.*, 1933, lv, 74.

C. S. Gibson. Plastics, their use in dentistry. *B. D. J.*, 1933, lv, 77.

F. B. Bull. Orthodontic treatment as applied to the child of pre-school age. *Brit. J. Dent. Sci.*, 1933, lxxviii, 113.

G. F. Gibberd. Case of concealed accidental hæmorrhage associated with spontaneous complete rupture of uterus. *Proc. R.S.M.*, 1933, xxvi, 1159.

Appointments

Dr. T. Silvester, M.O., The Magadi Soda Co., Ltd., Lake Magadi, Kenya Colony, B.E.A.

L. F. Beccle, M.B., B.S., Barrister-at-Law, Lincoln's Inn.

Change of Address

C. Lambrinudi, F.R.C.S., Palewell House, Roedean Crescent, Priory Lane, S.W.15.

L. Horsley, M.R.C.S., L.R.C.P., 34, Devonshire Street, W.1.

M. Honigsberger, M.R.C.P. (Lond.), M.R.C.P.I., 152, Harley Street, W.1. *Welbeck* 6052.

Birth

COE.—On 12th July, 1933, at 88, Mayfield Road, Sanderstead, Surrey, to Alice (nee Monro), wife of W. E Coe, L.D.S., Eng.—a son.

Marriages

YENDOLL—CAREY.—On September 24th, 1932, at Portsmouth, Leo Godfrey Yendoll to Margaret Lois Carey.

SILVESTER—WROUGHTON.—On July 4th, 1933, at St. John's, Wembley, Dr. Temple Silvester, son of the Vicar of Wembley and Mrs. Silvester, to Dorothy Wroughton, M.A. (Oxon.), daughter of the late Dr. William Wroughton and Mrs. Wroughton, of Merriott, Somerset.

EDS. { M. J. McA. / C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

THE announcement in the Press that Professor Florey, of the University of Sheffield, was to succeed the late Professor Donaldson as Sir William Dunn Professor in Pathology at Guy's has now been officially denied. We understand that the post is, in fact, still vacant, and that it may be some time before it is filled.

There can be no doubt that the new Professor of Pathology, whoever he be, must be a man of singular ability. We cannot believe that there is anyone of more importance to the student in the early days of his career than the pathologist. Not only must he be one who has the power of being able to teach well and be fond of teaching, but it is essential in the modern conception of a good medical training that he should be able to link up what is seen in the post-mortem room with that seen in its earlier stage in the wards. This may sound an obvious truism, but it is disappointing to see how frequently it is overlooked, and how common it is to find the pathologist bound to his laboratory, completely out of touch with the clinical details of his material, and at a loss to drive home to his students the applications of what he sees under the microscope. The lecturer who can teach theoretical pathology only and cannot make a bond between the ward and the post-mortem room is surely out of date. Theoretical knowledge is derived far more easily and more readily from a good text-book and systematised lectures on it are bound to become nothing but a mere drudgery.

We hope, therefore, that the new professor will be one prepared to make regular appearances in the wards, and that combined rounds of physicians and pathologist, by becoming a more regular feature, will increase the practical side of the Guy's medical training. Such a move would certainly be popular, and would do much to counteract the criticism so often made against English medicine of the lack of co-operative team work. Individualism may be a characteristic of English methods in general, but it is surely a thoroughly bad principle when carried too far in the realms of medicine. It is true that an individual may here and there carry off a brilliant piece of research work entirely on his own, but in the average class of clinical research, which entails such careful analysis, a planned scheme of investigation and treatment over a number of years, and, above all, a careful follow-up, the co-operation of a whole team of workers under one director is undoubtedly necessary. In this team the pathologist must play a prominent role, and where he and the physicians can work together with the same purpose in view, there is a likelihood that something will be achieved and that enormous waste of good material which occurs when aims are haphazard and disorderly may be prevented.

If it is an ideal to hope for a closer co-operation between the clinicians and the laboratory workers, it is surely equally desirable that there should be a closer link between the clinicians themselves.

Nowadays it is not possible for every consultant to be the complete general physician, nor indeed is it always desirable. The modern tendency to further specialisation is, we feel, a move in the right direction; it encourages a concerted attack on a definite subject in an organised direction, and gives promise of adequate clinical research, the results of which the practitioners will ultimately derive, and the public therefore, better provided for. But this breaking up of general medicine in the interests of research and progress may be dangerous to the student if he does not have the opportunity of coming into contact with all the special workers. To avert this danger is an absolute necessity, and it is for that reason that we would plead for a closer co-ordination between clinicians themselves, between clinicians, pathologist and physiologist, and for the further provision of more frequent combined rounds, where the specialists may be heard in demonstration and discussion.

A SIGNAL honour has been conferred on Miss M. C. D. Kennett, an old Guy's nurse. She has been appointed Secretary and Inspector to the Lodging House Syndicate in the University of Cambridge. Hitherto this responsible post has always been held by a member of the Senate. We offer our heartiest congratulations.

AT a meeting of the Residents held on the 14th August, Mr. H. G. N. Cooper was elected President and Mr. R. A. Ratcliff, Vice-President, for the coming three months.

THE following members of the Staff and Junior Staff have been appointed Consultants to the London County Council :—

T. B. Layton, Esq., M.S.—*Otologist, Fever Hospital.*
R. J. Cann, Esq., M.S.—*Assistant Otologist, Fever Hospital.*
W. H. Trethowan, Esq., F.R.C.S.—*Orthopædic Surgeon.*
R. C. Brock, Esq., F.R.C.S.—*Thoracic Surgeon.*
L. Forman, Esq., M.D.—*Dermatologist.*
C. Lambrinudi, Esq., F.R.C.S.—*Orthopædic Surgeon.*
E. P. Poulton, Esq., F.R.C.P.—*Physician.*
F. J. Steward, Esq., M.S.—*Surgeon.*
Philip Turner, Esq., M.S.—*Surgeon.*
R. Davies-Colley, Esq., F.R.C.S.—*Surgeon.*
E. G. Slesinger, Esq., M.S.—*Surgeon.*
N. L. Eckhoff, Esq., M.S.—*Surgeon.*
D. E. Denny Brown, Esq., M.R.C.P.—*Neurologist.*

THE following House Officers have been appointed :—

House Physicians—
To Dr. Poulton—C. H. Fagge.
To Dr. Ryle—C. A. Clarke.
House Surgeons—
To Mr. Turner—R. V. Payne.
To Mr. Davies-Colley—F. J. Curtis.
Orthopædic and Genito-Urinary House Surgeon—
R. J. Drummond.
Ear, Nose and Throat House Surgeon—
To Mr. Layton—G. A. Miller.
Ophthalmic House Surgeon—
J. Grocott.
Obstetric Resident—
To Mr. McNair and Mr. Cook—C. G. Baker.

Words and Phrases : I.—Similes

By T. B. Layton, D.S.O., M.S.

IT is probably impossible for any of us to work under all the members of the Staff of our student days. I regret never having worked under Dr. Frederick Taylor. Everything was in favour of my doing so. His father had been a life-long friend of my grandfather ; he had been a contemporary of my uncle as a student ; I owed to him the fact that I was entered as a London University student, for he had warned my mother in time that I must take the London Matriculation. I should not otherwise have done so, for this examination was then despised at my small public school. " H'm, h'm," said the Head, when I went to him about it. " Anybody in my Lower Sixth Form can take the London Matriculation " —but I had a struggle for it. I have always looked up to Dr. Taylor as my ideal of the grave, courtly physician properly taking his position as a leader of the profession and as the head and representative of the Guy's Staff. And yet I never made any attempt to get on his firm. Why was that ? Because he had the reputation of always cavilling at words and of nagging at the clerk's terminology instead of getting on with the case and teaching medicine.

There was a story told that he began a round by reading a report in the opening lines of which the clerk had described an organ as being of a strawberry colour. This lead Dr. Taylor on to a disquisition on the strawberry plant. He discussed its seed and the growth therefrom. He described the root, the stems, the leaves, the flowers with their constituents, and then passed on to the fruit and pointed out how first it was green and then it passed through a white stage to the ripe one, and that in all these stages the fruit had on its surface seeds of a hue different from the flesh. Last stage of all, the fruit was over-ripe before its surface became obscured by the fungus that grew upon it, and of all these to which did the clerk refer when he mentioned " strawberry colour " ? Finally, he rounded on him and asked him had he even seen a cherry-coloured cat with rose-coloured feet ? The clerk answered " No," and the question was repeated to all the firm with negative results. " Well, I have," said Dr. Taylor, " but they were black cherries and white roses." By this time it was 4 o'clock and he had to go to the medical school office to take the chair at a committee meeting.

Knowing the student, one is not surprised that Dr. Taylor's firm was not " first choice " for second three months' medical clerking. And yet that he was right his book remains as a monument—not

to mention that the clerk in the above story is now one of our sanest investigators, who, when he writes, does so with an economy of phrase and an accuracy of words that carry a weight never to be approached by the windy terminology of those that sit down and write of everything at any time. It is my friend Dr. Dan Mackenzie who constantly is reminding me that accuracy of observation and accuracy of description of the thing observed form the basis of all medicine. " And do not for-r-get they are different things, ma' boy," he adds—the earnestness of his belief causing the accent of the Western Highlands to pierce the veneer that 40 years in London have given to his voice.

Similes are bad, because they do not lead to accuracy of description; indeed, usually we use them because we are too lazy to compose a difficult description, to wrestle with it, finding the right word and putting it in the right place, going back to our patient to examine again some small point and to see if it is exactly as we thought it. A simile avoids all this; we need not wrestle with it, we need not even be accurate, for if anyone cavil we can always say, " Of course, you must not carry it too far."

It is necessary to distinguish between the written and the spoken word. In writing it is best never to use similes, not even in a ward-clerk's report. But in the spoken teaching they may be useful, or even necessary. We want to impress some physical sign on the student's brain so that whenever it comes before him again it will at once call up some association, a warning as to prognosis and the spread of the disease, or a guide to diagnosis at some point where he may go wrong, a simile may do this. There are, however, certain rules that should be observed. In the first place, the simile should be preceded by a description, the student may not remember this, but it should help him to appreciate the simile, and if it is not like he will tell you so; besides, it is necessary for the further mental development of the teacher.

Secondly, there is Dr. Johnson's rule: " A simile to be perfect must both illustrate and ennoble the subject; must show it to the understanding in a clearer view, and display it to the fancy with greater dignity " (" Lives of the Poets," *Pope*, para. 329).

This is difficult to carry out in medicine. Can we ennoble a tongue, or display with greater dignity a bruit or a smell? It is hard to do so, but we can avoid the opposite. I remember well an appalling example of this nature. At a meeting a surgeon was trying to describe an unusual appearance of something in the nose, and, failing utterly, finished up by saying, " It looked for all the world like an infant's penis when erect." Then, realising it was a mixed assembly, he turned round and apologised to our lady member and made it worse. I have never done anything as bad as that, but must admit to some appearances having roused within my mind pictures of a Rabelaisian nature. When I have tried to turn them into a simile for teaching purposes, I have always failed utterly to carry home my point. Such similes are quite useless for teaching, and but serve to show the wisdom of the old Doctor.

Thirdly, similes are very apt to lead the student astray. They may do so by causing him to apply the term to the wrong lesion. Thus most students apply the term " a strawberry tongue " to a condition that is not like a strawberry and is not characteristic of scarlet fever. They apply it to the tongue with the white coat through which the enlarged fungiform papillæ are seen protruding as red spots. They have read it in a text-book, and apply it to something else before they have seen the tongue that has just peeled in scarlet fever—a red, flabby tongue with purple tinge, moist, but devoid of fur, with the fungiform papillæ standing out from the surrounding surface. It looks like one of the strawberries left behind at the bottom of the basket, when everyone who has been dipping finds he or she has had enough.

But there is another way in which the student may be led astray. It is by the teacher's using the same simile for exactly opposite appearances. Thus when I was reading for my Final, Mr. Symonds used to teach that the gut that might be returned to the abdomen during an operation for obstructed hernia was the slate-coloured one, but the registrar of the day used to reiterate " Slaty! slaty! slaty! " as the gut that must *not* be returned. Some years later I went to the part of Wales where the registrar was born and saw there all the slates of an ashen grey colour, and not the bluey-purple to which Mr. Symonds had referred.

Of course, many of our words are really similes; some, like mastoid, were named so long ago that the origin is forgotten. Yet even similes in words are apt to lead astray. The word " funnel " has been used in Latin (*infundibulum*) within the nose to indicate five different spaces, till it has become useless. When we use such a word we must always be prepared to justify it and to describe the appearance. We laryngologists speak of the arytenoids being swollen with a morula appearance. We do not do this because we think no one else can examine the larynx to say us nay. We mean that the surface gives the appearance of a number of hemispheres of approximately the same diameter placed side by side in contact one with

another, but we have not time to say it on every occasion, even if we could remember the description once we had defined it.

There is no doubt Dr. Taylor was right in his insistence on a proper choice of words. I do not think we have improved since his time, and often we have gone back, but it is no more good to-day spending all our time in cavilling at a student's words than it was then. They will not listen. What, then, are we to do? Why, reform the teachers! If all their grammar were perfect, their words well chosen, and their phrases free from similes, what a wonderful school ours would be, even if it has lost something in flavour.

And if we have to reform the teachers, why do I write to the *Gazette*, which is a students' paper? Well, firstly because everyone is away and the Editor is short of copy—but whether he can ever stop me now I have begun is another story. Secondly, because even Registrars may sometimes read the *Gazette*; and, thirdly, because having put them down on paper these notes may stop me doing the very things I so deplore.

Chiefly do I do so because I believe that in the future every medical man must be a teacher. We are trying to get away from the fetish of the bottle of medicine. We condemn it as unscientific and say it acts but by suggestion. But if we do away with it we must put something in its place, and that not merely a needle's prick. We must teach our patients how to live, and if we give them any special treatment they must know how to apply it or to carry it out, and we must know that they know, and that again is done by teaching. But there is more than that; in the medicine of to-day we are relying more upon the nurse, and shall do so still more in the future. But to keep control of the treatment we must teach the nurse, and if we want her to teach the patient we must teach her how to teach. And the more elementary our teaching is the more careful must we be in our choice of words and phrases.

Constitutional and Environmental Factors in Disease

Treasurer's Prize Essay read before the Physical Society by R. S. Vine.

MR. CHAIRMAN and GENTLEMEN,—Before plunging into a discussion on disease, it is essential to define this condition; and here, at the outset, one meets with an almost insurmountable difficulty, for there is no very clear boundary between the state of "disease" and the state of "health." A reliable text-book of pathology defines disease as being "manifested, on the one hand, by subjective symptoms resulting from disturbance of function, and, on the other, by objective signs and changes which can be scientifically investigated." It is a condition in which the body has fallen, in a greater or less degree, out of harmony with its surroundings. Health is that state in which the body is adequately attuned to its environment—a no mere quiescent state, but a condition of unstable equilibrium, maintained by a continual struggle. There are no absolute standards by which a man's health may be judged, but, however, ranges of activities within reasonable limits are commonly accepted as being "normal" or "average" for individuals of a given age. The normal state may be considered as a "zero ordinate" about which vibrate life's values. The big deviations from the zero are recognisable as unusual or "abnormal," and the minor oscillations which represent the average are largely unobserved. Because of the difficulties in detecting them, these minor variations have not been subjected to a proper scientific scrutiny. On those with obvious disabilities who seek the physician as a result of them are examined and classified.

The quality that determines an individual's position relative to the imaginary zero ordinate described is his constitution. This term has a very wide significance. It embraces all the attributes of a person, from the colour of his eyes to his social reactions. In order to make a practical investigation of constitution, Draper subdivided it into four main groups or panels—the anatomical, physiological, psychological and immunological panels. Human constitution plays an important part in influencing the course of a disease. A significant feature, realised since the days of Hippocrates, is that some individuals are more liable to certain diseases than others. Such a remarkable phenomenon was presumably attributed to the machinations of a deity; it was doubtlessly considered heretical to question or study them. With the establishment of the science of medicine on a firmer basis towards the end of the 18th and throughout the 19th centuries, a more intelligent interest was aroused in the more abstract qualities of temperaments and morbid dispositions. Particularly was this the case in the French schools, and what had until then been attributed to "Deity" was now shouldered on to "Diathesis." The latter can be defined as a predisposition, usually inherited, to a malady or group of maladies. At first it was considered as being a disposition to the manifestations of a

disease, such as the hæmorrhagic diathesis of a hæmophilic, or the purulent diathesis of one liable to boils and carbuncles. Later on, diathesis was defined as that intermediate state which, while not being actual disease, is, however, no longer perfect health—" a peculiarity of health, giving proclivity to definite forms of disease," as Hutchinson, a pupil of the great Thomas Laycock, of Edinburgh, expressed it. Diathesis is to be distinguished from idiosyncrasy, which is a special reaction to a specific exciting cause. The former implies abnormal reactions to a non-specific environment innocuous to the majority. The most complete description of diathesis is that put forward by Ryle a few years ago; it is " a transmissible variation in the structure or function of tissues rendering them peculiarly liable to react in a certain way to certain extrinsic stimuli. Not all who acquire the disease have the diathesis, but those who have the diathesis are more likely to acquire the disease than those who have not."

The conception of diathesis has not been without its critics. In 1831, Roche, a Frenchman, pointed out the futility of inventing a new word for a long recognised state of affairs and merely leaving it at that. And with the coming of Pasteur and the subsequent discoveries in biochemistry and bacteriology, the elucidation of the prime causes of many diseases, the whole edifice of diathesis collapsed. During the following years all the attention was being paid to the seed rather than the soil, and the study of the constitution was relegated to the background. Within recent times, however, universal interest is being revived in the soil. Bacteriology and biochemistry have failed to solve the puzzles of human disease, and, in fact, have often put obstacles in the path. The problems of human disease can never be solved whilst the human factors are neglected. A man shapes his own disease, and the same virus or poison may produce widely different effects in two given individuals.

Having briefly sketched the vicissitudes in dical history of " constitution " and its im- nt subdivision " diathesis," it becomes necessary to consider the struggle between it and its external environment, for though there is a high degree of adaptation on the part of the normal constitution, the struggle is none the less keen. Throughout his life, a person is exposed to the sudden dangers of death or disfigurement, to the hostility of invading parasites, to the inclemencies of the weather and the numerous other adverse influences of daily life. As a consequence of these variable and hostile surroundings, there have evolved those higher types of animals who, by delicately balanced regulatory mechanisms, present a constant front to the changing environment. The constancy of the " internal environment " was first advocated by Claude Bernard, and physiological investigations have since confirmed this idea. Those with the best regulated constitutions have a better chance of survival; and any additional factor which may appear spontaneously, and helping to improve the regulatory mechanisms, will assist the survival of such individuals. Homoiothermy may be quoted as an example of such a beneficial factor or mutation. A frog is entirely dependent on his environment, which must be fairly cold and wet, and he rapidly dries up if placed in direct hot sunshine. Ants may be employed as a thermometer, for each rise of 10° C. they go twice as fast! Their rate of daily work is dependent on the weather. With evolution, the beneficial or positive mutations—variations arising spontaneously and transmissible to succeeding generations—tend to survive. Thus with gregarious animals, though the weaker members of the community are protected and preserved, within reasonable limits, only the heroes of the fierce pitched battles between the males at breeding time take wives. Hence polygamy is the rule, though the sexes are fairly equally balanced in the herd. Again, in some wild tribes of savages it is the custom to expose disease-stricken children in the bush so that they may be quickly devoured by wild beasts. This method prevents the spread of a possibly fatal epidemic, with the consequent disappearance of the tribe. In civilised communities, however, the greater " humanitarian " instinct, which is latent in all communities of social animals, has led to the survival of the weakly and unfit—the negative mutations—and, indeed, the science of medicine is directly aimed at perverting the normal course of evolution! This is particularly well marked as a result of great strides in endocrinology during the past few years.

We must now turn our attention to a consideration of the factors which come into play in the battle between the abnormal or diseased constitution and its environment. Biologically, diseases can be divided up into three main groups: the constitutional, or disordered function, the modificational, or disordered structure, and the parasitic. In any disorder, however, it must be borne in mind that two factors are always present, the external and the internal. In some conditions the external factors are of prime importance, as when a healthy organism is subjected to a massive bacterial invasion, and in others the internal factors appear to be the main feature, such as in hæmophilia. In the former, however, despite the priority of the external factor, Sydenham's ex-

position must be remembered, that " a disease, however much its cause may be adverse to the human body, is nothing more than an effort of Nature, who strives with might and main to restore the health of the patient by the elimination of the morbific matter." It depends on the constitution whether the battle is won or lost. The classification might be reduced to two groups instead of the three mentioned: the Environmental Diseases where external factors play the greater part, and the Constitutional Diseases where internal factors play the principal part, with the modification that the two factors are present in both types, and all varieties of intermediate conditions exist between the two extremes.

ENVIRONMENTAL DISEASES

These may be due to defective or insufficient food supply; the numerous pathological sequelæ of different professions—the occupational diseases and the results of the inevitable accidents, physical and climateric, to which no one is immune.

1. *Defective Nourishment.*—This includes deficiency in oxygen supply. Obviously no man can withstand absence of oxygen for long, no matter how perfect his constitution. A healthy person can adapt himself to a rarefied atmosphere by a physiological polycythæmia, but this is a constitutional factor. Insufficient food supply leds to glycopenia, acidosis, inanition, coma and death. This would appear to be independent of the constitution, but it goes without saying that the pictures of two individuals starving, though similar, will not be the same. One will probably die long before the other, even though they started together. Lack of adequate nourishment, particularly lack of proteins combined with a relative excess of carbohydrates and salts, may lead to a condition of œdema. By far the most important results following defective intake are the deficiency diseases following lack of vitamins. In these conditions, though, the personal factors may play a very large part. Some infants readily develop scurvy on diets harmless to others. McCarrison believes in the existence of an individual predisposition to deficiency disease—" the quantities of vitamins necessary for the harmonious regulation of the metabolic processes vary with the individual and his rate of metabolism."

Simple goitre, which is endemic in many districts, is an example of a deficiency disease, but for everyone who gets a goitre in that area there must be a large number who preserve their thyroids unaffected.

2. *Occupational Disorders.*—The occupational diseases occupy a very large and interesting group of environmental diseases. Though the environment plays the principle role, for without the environment the disease would not develop, the inborn capacity to resist the unhealthy influences vary widely. The several forms of pneumonokonioses, to which all are liable if the dusty atmosphere is inhabited long enough, may or may not lead to fatal results. True, the fatal results may be due to an independent factor, the tubercle bacillus, but how many who develop a pneumonokoniosis would have eventually died of phthisis? —and not all with the pneumonokoniosis will be in the same physical condition even after equal times of exposure. Many will partially recover on being removed to a clearer atmosphere, some more so than others, and more especially in anthracosis, which is notably lacking in the great fibrous induration typical of silicosis or asbestosis. Constitution is a guiding factor in these conditions.

Occupational dermatoses are sometimes followed by cancer, such as mule-spinners' and chimney-sweeps' cancer, but by no means all. Some may develop cancer after a very few exposures to carcinogenic substances like mineral oils or coal-tar products, and frequently long after the exposures have ceased. Others will never develop cancer.

Even from such a destructive force as electricity or lightning there have been recorded some remarkable escapes. Susceptibility to light, X-rays and other radiations vary considerably from individual to individual. Light sensitivity will be referred to again later. It is plain that the constitution may play a larger part than might at first be suspected in determining the character of these " environmental diseases."

CONSTITUTIONAL DISEASES

Constitutional diseases imply derangements of normal metabolism due to inborn defects—some upset in the germ plasm. They are almost unknown in wild Nature, where they are early nipped in the bud should they emerge.

1. *Enzyme Defects.*—In 1855, W. H. Walshe in a lecture described the diathetic maladies as " apparently generated and sustained by an intrinsic blood-poison resulting from some perversion of the nutritive processes of the individual." In many conditions it is known that an abnormal or intermediate product of metabolism, or a normal one in excessive amounts, is the chief feature of the pathological condition. Thus in that rare condition, alkaptonuria, which is a hereditary Mendelian recessive disease, there is an inborn inability to affect a breakdown of the benzene ring compounds, and, consequently, the intermediate product of the katabolism of the aromatic amino-acids is present in the tissues. This intermediate

product is homogentisic acid, whose appropriate enzyme seems to be lacking in this disease. This acid blackens on oxidation, and as it is excreted by the kidneys, the urine blackens on standing, and any urine-soiled articles become indelibly stained. In the course of years, the cartilages, ligaments and scleræ become darkened, giving rise to the condition ochronosis, originally described by Virchow. In later life a typical form of osteoarthritis with a characteristic distribution develops in ochronosis. Garrod suggests that ordinary osteoarthritis of later life is due to some inborn error of metabolism, as frequently no underlying cause for the condition can be found, unless one assumes that it is due to the slight traumata of daily life—and this by itself is a slender argument.

As typical examples of constitutional diseases resulting from enzymal defects and dependent largely on the environment for the precipitation of pathological symptoms, might be cited cystinuria and porphyrunuria. The former is characterised by the excretion of cystine by the kidneys and the appearance of the typical hexagonal crystals in the urine. Cystine is very insoluble in acids, so that is a great tendency for cystinurics to form urinary calculi. Many cystinurics (about 98 per cent.) go through life without being affected with calculous formation, whereas others are severely affected. In the latter, a local infection of the urinary tract is common. This may well be the precipitating factor in the formation of a calculus, especially if the urine is acid, though the infection may have been secondary to the stone. Porphyrinuria is bound up with the question of light sensitivity. That the constitution can be profoundly affected by light and the region of shorter electromagnetic vibrations beyond the visible spectrum, is evidenced by the production of Vitamin D from ergosterol; the protective pigment developed in a bright summer season, and the unpleasant irradiation burns. It has been shown that the introduction into the tissues of fluorescent pigmented compounds such as eosin and many members of the porphyrin group leads to the development of acute light sensitivity. As Garrod points out, it is highly probable that, as a result of abnormal metabolism (possibly deficiency of the appropriate enzymes) porphyrins may escape into the tissues and play a part in the production of light sensitivity. Porphyrinurics pass a deep reddish-brown urine, and the bones and teeth are frequently deeply stained with porphyrin. With the onset of summer they usually develop hydroa vacciniforme—a distressing complaint which develops each year throughout life, causing much scarring and disfigurement.

In these conditions the constitutional complaint is only potentially harmful—the environmental factor is necessary for the production of the morbid symptoms. Even hæmophilia requires the cut to cause the disease.

2. *Endocrine Defects.*—It is difficult to assess the value of the external factors in endocrine disorders. Superficially they would appear to be entirely independent of the environment. The fairly frequent occurrence of cretinism in goiterous districts may be attributed indirectly to an environmental factor. It is probable that an inherited tendency towards a thyroid deficiency is emphasised by a scarcity of iodides in the maternal blood, causing a failure of the fœtal thyroid to develop properly. It must be remembered that, though many of the inhabitants of a goiterous district are exposed to a similar environment of iodide deficiency, not all develop a goitre. Many diabetics give a history of having consumed quantities of sweet things, but how few normal beings would not give a similar history? It is more probable that the islets of Langerhaus, owing to an inherited defect, are readily overtaxed by the demands of a needlessly high, or even quite normal, carbohydrate intake. How much other endocrine disturbances, such as various tumours of the pituitary, parathyroids, suprarenal cortex, etc., depend on external or constitutional disturbances is impossible to say. Constitutional effects of such abnormalities, by upsetting the endocrine balance, are familiar enough to clinicians, but the underlying factors causing the tumour are still a mystery. The causes leading to the formation of any sort of tumour are probably numerous, but it is certain that, in the case of a large number, both external and internal factors are concerned.

3. *Vitamin Defects.*—As already indicated, vitamin deficiency diseases are essentially dependent on external factors—an adequate food supply. Vitamins are exogenous hormones and upsets in the vitamin balance leads to results as serious in its constitutional disturbances as upsets in the endocrine balance. It has been mentioned too, that a personal element exists in the susceptibility to vitamin deficiency.

4. *Tissue Defects.*—These are peculiar developmental abnormalities commonly of mesodermal origin. They are due to some essentricity in the physico-chemical structure, an inborn defect—a perturbation in the germ-cells. The abnormalities may be obvious in early life or they may appear later. They are often latent in the first decade or two, but inevitably develop as life goes on. The diathesis has been inherited and is, therefore, inexorable; what environmental factors lead to the ultimate development of the condition are

unknown, unless it be the usual wear and tear of ordinary life. No one specific factor can be indicated. As Ryle states, " the greater part of chronic ill-health of civilised communities is due not so much to economic factors, dietary errors, inadequacy of public health services and the futility of doctors, as to a variety of agencies operating through the generations and obedient to known biological laws." In acholuric jaundice, a condition in which the red blood-cells are abnormally fragile, Naegeli considers that environmental factors such as toxins or infections are the precipitating causes. Without them there would be no acholuric jaundice, though, of course, the tissue defect would remain. In those rare defects, the neuromuscular atrotrophies of Gowers, evidence has been published by Adie and Greenfield that such states are probably the result of a wide morbid condition, including changes in the thyroid, testicular atrophy, baldness, increased secretion of sweat and tears, cyanosis and coldness of the extremities—a pluri-glandular syndrome. The constitutional aspect is marked, the environmental one masked in such conditions. Gaucher's disease is probably a tissue defect, or on the borderline between that and an enzyme defect. It is extremely chronic, slowly progressing throughout the life of the individual, apparently uninfluenced by the patient's environment, and is characterised by the formation of an abnormal chemical compound, kerasin, a galacto-lipin, which is stored in special cells in various sites.

5. *Alimentary Diatheses.*—The various constitutional types are well recognised; the broad hypersthenic type with the short, high and active stomach, and the narrow hyposthenic type with the long, pendulous, relatively inactive stomach. Given these constitutions, how may the diseases commonly associated with each type be brought about by environmental changes? This is not easy to answer. It is obvious, though, that the constitutions are far commoner than such diseases as gastric and duodenal ulcers, and Addison's anæmia. The production of gastric and duodenal ulcers has been ably dealt with by Hurst in " The Constitutional Factor in Disease." The active, short stomachs in hypersthenic people is emptied completely, except for the gastric secretions, shortly after a meal. Such " an over-active, over-acid stomach . . . over-responsive to nervous moods, is more likely through mechanical and chemical unrest to perpetuate a lesion in the first part of the duodenum than any other physiological type of organ." In the long type of stomach the conditions are reversed—the food is kept an abnormally long time in the less active stomach, and the subsequent irritation is more likely to produce a gastric ulcer. Garrod points out that defects in the make-up of tissues are probably due to errors of chemical structure, rather than mere morphological anomalies, and evidence has been brought forward in support of this idea by Blain of the presence of a higher acidity than normal in the blood and tissues of those with the ulcer diathesis. An acute alimentary ulcer is more liable to become chronic in such persons, the position depending upon the structural and physiological properties of the stomach. The aim in treating these disorders is to alter the patient's environment by prescribing a suitable dietary and indicating the wisest mode of life to be adopted.

6. *Hypersensitivity.*—This may be defined as a state of abnormal sensitivity wherein some subtle change in the external or internal environment, such as a slight alteration in pH or in the fluid balance of the tissues is sufficient to cause marked constitutional disturbances. The sensitive constitution of asthma and its allied disorders is as essential for the appearance of the familiar clinical picture as the minute trace of foreign protein which precipitates it. Migraine and epilepsy are associated with hypersensitivity of the cortex. The underlying factors causing the abnormal sensitivity are not fully understood; most probably epilepsy (apart from definite organic causes) is a symptom of a big group of maladies about which our knowledge is yet scanty. Ocular and psychological stimuli play a part in the production of migraine, and in epilepsy, besides the psychological factor, slight physico-chemical changes in the internal environment of the cortical cells may be the precipitating cause. The fundamental constitutional aspect of these conditions is emphasised by their hereditary nature.

INFECTIVE DISEASES

In these conditions the external factors and the constitution each play an important role. The disease is the constitutional effort to overcome the invading organism. Many people have a considerable natural immunity to certain diseases; others are abnormally susceptible. This is well illustrated in the case of tuberculosis, as is indicated by post-mortem appearances. Though better living has diminished the prevalence of tuberculosis in susceptible families, it has been shown that most cases of tuberculosis come from families whose antecedents suffered from the complaint. A hereditable rheumatic tendency was shown by Goodhart in 1881—though in this complaint the environment may plan a very large part, rheumatism being much commoner in low-lying, damp districts. The Schick Test has shown that many people are immune to diphtheria, but in these

cases the immunity may have developed as a result of subliminal infections. Again, negroes are supposed to be more immune to yellow fever than white men—this may be an expression of the survival of the fittest. In acute bacterial infections the individual, not the bacterium, shapes the disease. In the three main types of pneumococci the coccus is the same in all cases, but the development of its polysaccharide capsule, which determines its type, is probably decided by the host's reaction. If so, what better proof that a man shapes his own disease?

GENERAL CONCLUSIONS

The importance of the constitutional factor rests in its early diagnosis—the diagnosis of the diathesis rather than the disease. In making a diagnosis, Ryle's criteria should be borne in mind: (*a*) there should be a clear family history; (*b*) that certain physical, physiological and psychological features are a fairly frequent association; (*c*) some peculiarity of structure or function present in health and capable of explaining the predisposition should be demonstrated. There are many pitfalls to be avoided in elucidating a family history. In the first place, the appearance of a malady in successive generations may be purely fortuitous, the result of house infection or other environmental factor. Secondly, the sudden appearance of a disease in the offspring of normal parents may be an example of a Mendelian recessive—a "knight's move" inheritance. It might be practically impossible to establish the hereditary nature of such an atavistic condition. Thirdly, human families are so small and slow in production compared with, say, mice or fruit-flies, that there is correspondingly less chance for interesting anomalies to appear.

The association of physical, physiological and psychological features are important as warning signals. The robust, plethoric, hypersthenic John Bull type could be directed to lead a life of moderation and regularity to prevent his developing apoplexy or duodenal ulcer. The delicate, narrow-chested, high-complexioned phthisical type might be directed to lead a vigorous life, and so on. The life of an asthmatic could be rendered tolerable by transferring him to a suitable place where he remains free from attacks. This is especially important in the case of children, where a pernicious habit may become firmly established by continually suffering from attacks. As Hurst points out, the best way to cure asthma is not to have an attack. The more frequent the attacks, the more sensitive become the centres concerned. This also applies to other hypersensitivity states. It is far more important to keep an epileptic free from attacks by adequate medication than to stint the drug for fear of overdose. The inborn abnormal sensitivity cannot be eradicated but it, can be considerably diminished.

The classical example of a disease which has been greatly alleviated by improvement in external environment is gout. The production of sodium biurate is probably due to an alternative metabolism which is presumably inborn in quite a high percentage of the population. The mechanism holding the biurate in solution in such persons appears to be a very delicate one and readily upset by external influences. Syringing the ear may be followed by an acute attack of gout of the pinna. The presence of gout amongst luxuriously living people is probably due to an overtaxing of this sensitive mechanism by deluging it with rich purine derivatives. The mechanism is no less delicate in soberly living, potentially gouty, individuals, but in these the mechanism is less frequently and less violently aggravated.

The recognition of diathetical maladies is of very great importance in children who are so very much more amenable to the correct treatment than are adults. In this way much can be done towards the amelioration of the condition at life's threshold, but, unfortunately, the diathesis cannot be cured.

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Guy's Elegy

THE Curfew tolls the knell of parting Blues ;
The cooing herd trips down the Colonnade ;
The students homeward plod by ones and twos,
And leave the wards to head nurse and ward-maid.

Fast fade the blue-clad figures from our view,
With mackintosh on arm in case of wet ;
Trim finery exchanged for starchy blue,
And Ashdown for the penny novelette.

Full many a Sister renders up her reign,
And leaves her charges to subordinate care ;
Full many a Sister's borne by rushing train
To pour her sweetness on the Margate air.

Ah, whither are they bound, this dainty band ?
What sunny, sea-girt shores do them await ?
What castles they will build from burning sand !
What slot-machines will blazon forth their fate !

No more, awhile, for them the dull, cold ward ;
No more the hasty meal, devoured in fear :
For them the soup and fish upon the board,
And moonlight meetings stolen on the pier.

Alas ! The time is short, the days are done :
Gone are the lazy driftings on the punt ;
Gone are the dreams of sand and sea and sun
And amorous Indian colonels on the Front.

The few brief days of backless bathing-suits,
Of beach pyjamas and of summer frocks,
Are over, and they lie, expressive mutes,
Disordered, at the bottom of a box.

But in the press of work they're soon forgot,
And such things pass as memory grows shorter ;
" Nurse, stop that child from screaming in its cot,
And Number One *must* have another quarter ! "

W. S. N.

Nursing News

THE Nursing Staff would like to add a small contribution to the appreciation of Professor Pembrey on his retirement. Professor Pembrey has been giving lectures on Physiology to the nurses since 1926. He has always taken the keenest personal interest in the nurses' work. His particular presentation of physiology to nurses beginning their training has been an invaluable help, not only in the understanding of Physiology, but in the development of common sense.

Professor Pembrey is a great believer of " seeing is believing," and his dramatically staged experiments made a lasting impression. " Ladies," he would exclaim, holding up a decapitated frog by its foot, " you all agree this frog is dead." Then, one touch of the electric wire and, hey presto ! the frog would leap along the bench with its accustomed agility, and he would say, pulling up his sleeves, " No magic." He delighted in exposing the inconsistencies of the feminine sex. If a groan travelled around the class when he failed to revive the asphyxiated white mouse, he would say, " You would not mind in the least if it was a black one."

We wish him many years of happiness in Oxfordshire.

We regret to record the death of Annie E. Brown, who was for so many years a familiar figure in the Portress's Lodge.

Miss Brown entered Guy's Hospital as a portress in 1901 and was a faithful servant to the Hospital for 30 years. She was warded in Mary with heart trouble in March, 1932, and, although after many weeks she improved, she was never able to return to her work. She has been very much missed by past and present Guy's nurses. She died on August 3rd at The Hostel of God, Clapham Common.

A Survey of the Student Nurses' Association

EARLY in the year of grace 1931, several of the Nursing Staff seriously considered the formation of a branch of this organisation at Guy's.

In April it came into being, and since then it has slowly but steadily made itself felt in the general life of the hospital, though to many people its object still appears to be wrapped about with

mystery, and the benefits derived from it by its members to be of elusive habits.

"What do I get out of it?" is usually the first question—and very rightly, too, for there are none among us so simple that they are desirous of parting unquestioningly with two silver florins a year for nothing at all. The answer, "Very little at Guy's," is not so unsatisfactory as it appears on the surface. Many are the hospitals which have no "Nurses' League" to organise their swimming and tennis, their choral and dramatic societies, debates, and whatever else they wish to do, and the Student Nurses' Association takes charge of all that and proves a boon and a blessing to many; whereas our own social activities are fully provided for by the Nurses' League, leaving very little scope in that direction for the Student Nurses' Association, though I hasten to add that it is not a sports club.

In its capacity of junior branch of the College of Nursing, its members have the privilege of visiting the mother organisation in Henrietta Street, Cavendish Square, of borrowing books from the well-equipped library, of consulting and seeking advice on professional matters from the officers of the College, who are ever ready to help.

In addition to this, it is always a matter of pride to show friends around the elegant building (now in process of being considerably enlarged), beginning with the spacious Memorial Hall with its long windows and moulded ceiling, and proceeding to the greater austerity of the Board Room, where the keynote is "Solidity" and the dominant colour sounds from the deep blue of the heavy curtains, a few pieces of inlaid enamel work, and some really lovely china. Everywhere from architecture to ash-trays, can be seen undeniable evidence that this is a place of women—the profession as a whole, where the individualism of the training school gives way to the general *esprit de corps*.

Far too few are those who, when their training days are over, become full College members and add their weight to the central organisation of nurses trained in the British Isles, which protects their interests, standardises salaries and, when necessary, provides for their old age.

The Annual Conference of the College of Nursing was held this year at Aberdeen, and it is now ancient history that two student nurses went from Guy's for a brief but delightful three days' visit to the silver city of the north.

The official business being open, the third day was devoted entirely to pleasure. Grey granite sparkled in the warm spring sunshine, and flowers grew bravely in sight of snow-capped mountains. Early in the morning they were away into the Grampians, past the scene of Rob Roy's famous leap, where a grotesque figure in the Rob Roy tartan appeared with startling realism at the foot of a crag, dirk in hand and ready to face the foe.

Then on through Blamoral and Braemar to the Lynn of Dee, where the whole river narrowed down to about 2 feet in width and rushed with tremendous power through a miniature channel of solid rock, careered wildly past jagged sentinels, and then abruptly widened out again into placid, slow-moving waters.

All around were pine woods, wet and very fragrant after recent showers, the scent of which is without equal, and only to be met with in Scottish pine trees.

Back through miles of heather, not yet in bloom, and forests, catching fleeting glimpses of deer and picturesque Highland cattle, with more frequent views of the river Dee, until Aberdeen was reached once more, and so back to London.

On August 1st, many of the Nursing Staff were fortunate in hearing Matron speak in the Nurses' Home about the Congress of the International Council of Nurses held at Paris and Brussels from 10th to 15th July. It was, as its name explains, an international assemblage of nurses, so that by its nature a better understanding must have been established between the nursing profession of different nations, which will inevitably contribute towards the founding of an international friendliness that will be the fundamental basis of international peace—the ultimate goal of every thinking being.

Addresses of welcome were made by some of the leading French ministers at the Salle Pleyel, while at the Trocadero, a huge building something like our Albert Hall, a "Pageant of Pioneers in Nursing and Royal Nurses" was held, and also the General Session, before which the Chief of Police advised against the display of flags and the singing of national anthems. It is readily to be understood that, even while there are outward expressions of goodwill between the nations chiefly involved in the Great War and a sincere effort made to be charitable, the wound is such that only time can heal, and such display could only cause, at the least, an unpleasant tension in an otherwise friendly atmosphere.

The official languages of the Congress were English, French and German, so that an indispensable feature of every meeting was the interpreter, through whom many questions were asked and answered. Important visits were paid to the Pasteur Institute and to the Hotel Dieu, where a painful scene was witnessed of a man, severely injured, who was expected to walk, with little assistance, to a place convenient for the treatment

of his injury, while no attempt at first aid or capable assistance was made. Though backward in some aspects of nursing, the French are very modern in others, while child welfare work has reached an advanced standard.

Reports were read in many languages by nurses of many nations, dealing with all aspects of the profession—social, economic and ethical—a copy of which, translated into English, has been kindly left by Sister Florence in the Revelstoke Lounge.

Joan Pierre, of Monbain, in a paper of high moral tone, stressed the importance of education, and its continuity from cradle to the grave. She said, " Man's education is never finished because the ideal aimed at is perfection. . . . Because education should be continuous, the student must remain in particular educative surroundings ; thus the living-in system is necessary "—a much discussed point. " Human worth does not lie in strength or beauty, nor in physical or intellectual attainments, but in lofty ideals, strength and sincerity of purpose, and in the sum total of a man's principles."

A week later, Sister Florence, who was also at the Congress, gave us an interesting description of some of the hospitals of Germany, which are mainly modern and very well equipped. The observation ward of the Children's Block at the Dusseldorf State Hospital, where all new child patients are put on arrival, was divided by glass partitions into cubicles, each containing everything used by the child and kept solely for its own use while in hospital. The kitchens feed 2,500 daily, and some of the pantries were tiled with blue to discourage flies, which are said to object to the colour !

An interesting visit was also paid to Kaiserswerth and the home of the Deaconesses where Florence Nightingale went for a short training.

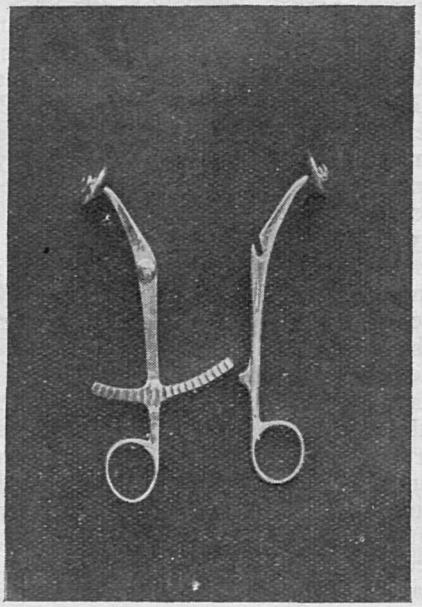
The next Congress will be held in London in 1937, when the fruits of four years' hard work in the advancement of the nursing profession will again be recorded.

Correspondence

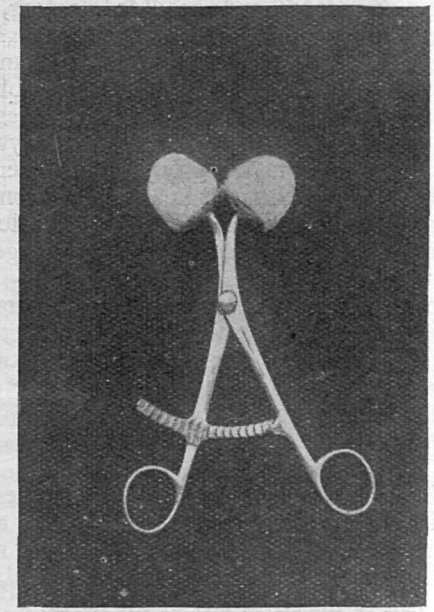
Self-Retaining Tonsil Hæmostatic Forceps

To the Editor of the GAZETTE

SIR,—I am enclosing herewith photographs illustrating a pair of self-retaining tonsil hæmostatic forceps which Messrs. Down Bros. have made for me.



There are two separate blades, each carrying a swab-holder, which are introduced separately, the

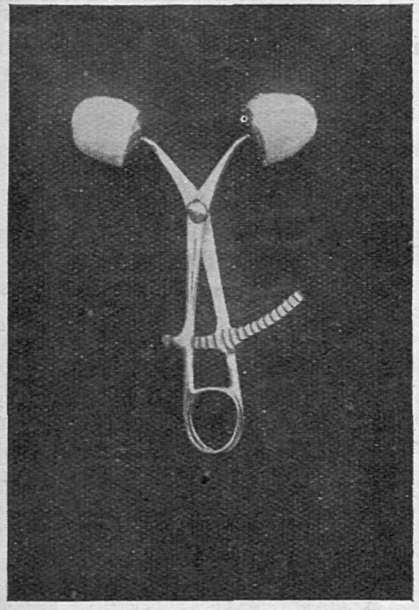


right first. When the swabs are nicely " home " in the tonsillar fossæ the blades are easily locked and firm continuous pressure can be exerted upon the bleeding fossæ by appropriation of the ring

grips—the ratchet, of course, preventing any relaxation until desired.

Disengagement is easy. It is not necessary to traverse the whole length of the ratchet—two or three notches only to reduce the counter-pressure of the tonsillar fossæ on the swabs, and then the upper member (the left) can be withdrawn directly outwards (from the mouth) by reason of the obliquity of its engaging slot.

The swab-carrying mechanism consists of a twin cylindrical "corkscrew" rising from a saucer-shaped base in which each swab is efficiently supported. It is necessary that the swabs should be not only of a size that is likely to fit the fossæ, but they should be tightly packed with no hint of flabbiness, and the corkscrew points should be engaged at a little distance from the twisting and tying pole of the swab, so that there is little resistance to the penetration of the corkscrew points.



I have had the ratchet arm carried across the shaft of the first blade to allow for exceptionally wide throats.

I am indebted to Messrs. Down Bros. for at least one valuable modification of my design.

Yours, etc.,

WILLIAM T. MILTON,
M.D., M.S. Lond.

29, Westmount Road,
Eltham, S.E.9.

Retirement of Theatre Sister

To the Editor of the GAZETTE

SIR,—May I convey through the medium of your paper my sincere appreciation and gratitude to the surgeons for the lovely gift presented to me on relinquishing my post as Theatre Sister.

Yours, etc.,

LOIS YENDOLL
(née Carey).

15, Deanhill Road,
East Sheen, S.W.14.

Reviews

The Cure of Varices and Hæmorrhoids, By STUART MCAUSLAND. Published by Messrs. John Bale, Sons & Danielsson, Ltd. *Price* 3*s.* 6*d. net.*

THIS is a short but very informative book on the indications, methods and results of injection therapy. The first two chapters are devoted to hæmorrhoids and to fissure, pruritus ani and other rectal and anal diseases. The rest of the book deals with the injection of varicose veins in the thigh and leg. The author writes with great authority and some of his statements are, perhaps, a trifle wide and sweeping, but his dogmatism, when it becomes excessive, can be readily pardoned on account of the general and unwelcome vagueness found in most text-books on the details of this subject. The book is printed on somewhat indifferent paper and is illustrated by a few good photographs. It is a book to buy

and read, and it can be heartily recommended to anyone who may be thinking of undertaking this form of therapy in his practice.

A Short Encyclopædia for Nurses. By EVELYN C. PEARCE. Published by Messrs. Faber & Faber, 1933. *Price*, 12*s.* 6*d.*

THIS should prove a very useful book of reference for nurses. The material is concisely arranged, and it is clear and not confused by irrelevant matter. The description of the various diseases and the outlined treatment and nursing care are especially good.

Whilst congratulating the authoress on her most comprehensive work we should like to make one or two suggestions which may add to the value of a future edition. In a number of cases, when reference is made to a further entry in the book, the nurse on looking it up discovers that no mention of it is made, *e.g.* :—

" Codeine," *see* " Morphia."

On looking up morphia no mention is made of codeine.

" Cervicitis," *see* " Endometritis."

" Cast," *see* " Plaster Cast."

With regard to the latter, surely a much wider description could be given.

However, there can be no hesitation in saying that this is a first-class book. The amount of medical and nursing information in it is enormous, and well balanced and up to date. We can anticipate that every nurse will want to have this book constantly beside her in her practice.

William Gray Testimonial Fund

Further contributions have been received from the following :—

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H. McD. Parrott
T. Fernandez
R. M. Ramsden
H. J. Selby
W. T. Milton
Anonymous

Hospital Information, etc.

Appointments

R, C. Brock, M.S., Consulting Thoracic Surgeon to to the London County Council.

Change of Address

P. Rae Shepherd, L.D.S., R.C.S., 97, Harley Street, W.1. *Welbeck* 2383.

G. M. Housden, M.B., B.S. (Lond.), 37, Cadogan Gardens, S.W.3. *Sloane* 8872.

EDS. { M. J. McA. C. G. B.

GUY'S HOSPITAL GAZETTE

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PASSIM

AT this time of the year the one thought and the one topic that can only be in our minds is that of the summer holiday. Some among us have kept the last month as we always imagined it should be kept—a month sacred to the pursuit of relaxation and pleasure. Others equally fortunate will observe the rite in September. It is only a few of us that have had to stay behind in London and the Borough—and that in the middle of a heat wave—and, however much we have kept our noses to the ground, and tried not to feel jealous and bitter, the realisation of what we are missing keeps constantly recurring. The summer is slipping by, and unwillingly we are desecrating a holy season.

For weeks now we have seen the rush to the sea and the country, by road and at the railway stations, and even every morning, when we are least prepared to stand it, our daily press keeps reminding us of how others are enjoying the things we might be doing ourselves. Even the constant inhabitants of the Borough are forsaking us. For one blessed month they, too, are on the "hop," picking and plucking in more salubrious fields. And with them has gone, as their doctor, the other occupant of the editorial chair, happy in the knowledge that for all ills in the Kentish fields there is but one ætiology. Small wonder, then, that we are disturbed when, in the middle of all this exodus, "Passims" have still to be written, proofs corrected, and all entreaties for further copy and original articles met with nothing but determined excuse and refusal.

And yet August at Guy's, if it has been rather dead has not been altogether unpleasant. We rise later, morning rounds become brief, and, to our surprise and delight, our patients need no encouragement to leave hospital. In the afternoon the physician, already over-worked and with a dwindling firm, tactfully suggests a short round that all may adjourn to the Park. There the grass has been kept wonderfully fresh and the fountain display in the morning has recently reached amazing heights. The "notices," those tiresome objects of bitterness and criticism, have been temporarily removed—not, we regret, by the hand of authority, but by some marauder. However, he was a man with a kind heart, for he covered their poor stumps with a few deft turns of a bandage and stopped the bleeding surface that he cleverly painted. Towards the end of the day the Swimming Bath remains, of course, the chief attraction, despite the horrid tales of conjunctivitis and tonsillitis contracted by bathing recently therein. Finally, a surfeit of ice and, if you are wise, a bed on Theatre Balcony.

We know, of course, that a reaction is bound to come. Already the Staff are returning from their holidays, bronzed, and with a fresh enthusiasm that shudders at an empty bed and seems to tear to pieces all our poor efforts in their absence. Our little ideas will be condemned as utterly unimaginative, the product of an exhausted and anæmic intelligence. Will they make allowances? Perhaps. Will they advise us to take a holiday? We wonder.

MANY of our readers will be surprised that the United Hospitals Swimming Gala has not yet

been held this year, and will wonder why it has been postponed till September 26th. The explanation is that the Oxford and Cambridge Swimming Club usually hold their meeting also at the Bath Club, the night before the United Hospitals. This year, however, they decided to hold it elsewhere, and the Bath Club could not be expected to make all the necessary alterations for one night's use only. Hence our Gala is to be held in Marshall Street Baths this year. A full notice containing all details will be found on another page, but we would remind you that this year there is to be a race of 100 feet for members of hospital staffs. It should be an evening worth making a note of.

WE should like to congratulate Mr. N. L. Eckhoff, M.S., F.R.C.S., most sincerely on his appointment as Assistant Surgeon to this Hospital. He is indeed a happy choice, and we feel sure that our readers will give Mr. Eckhoff a really hearty welcome when he officially takes up his duties on December 27th, 1933.

Short Visits to Near Clinics: II.—Southend

THE occasion of this visit was to attend the second week-end Course of Practical Demonstrations in General Medicine and Surgery that has been held at the new General Hospital. This has just been built on a large site outside the town, but, before describing it, let me warn readers that it takes longer to get to Southend by train than one would think. By car one can be at the General Hospital in an hour and a half from Central London; not so by train. There are many stations—the slow trains stop at them all. The "express" by which I travelled stopped between them all.

Fond as one becomes of one's own round-the-corner-200-years-old wards, sometimes one thinks how glorious it would be to start in a quite new building. The new General at Southend is built on the pavilion system, well-sited with the blocks running north and south, and in such a way that an extension is possible without spoiling the general "layout." The wards are well arranged, with all the administrative rooms near the corridor at the north end. The beds are placed parallel with the walls, so that the patients can look out of the windows, which are set low for this purpose. Curtains can be drawn if needed, shutting off each bed into an area about the size of a cubicle in our Bright ward. There can be little doubt that this arrangement adds to the mental interest and thus aids all treatment, while it practically prevents spread of disease by droplet infection between patients. There is also a beautiful children's ward with a large balcony that has a moveable roof. But, alas! how much better it might be. The children's ward is so built that the cots can be ranged along one side only, with the result that though the floor space and volume of air are ample, the cots are so close that droplet infection is almost inevitable between them. There are but small balconies to the main wards, whereas at but slight increased cost these might have been built along the whole length of the east side and south end of each ward. It is a matter of regret that hospitals are being built all over the country without any reference to adequate balcony accommodation being provided on which modern lines of treatment, by fresh air and sunshine, can adequately be carried out. The blame must lie with us clinicians, who pay lip-service to these means of therapy without taking any steps to see that we can obtain it; we leave all to administrators, architects, county councillors and officials who strive hard, but have to work without the full support of us who carry out our treatment for which they are providing accommodation. It is as though, having decided that quinine were the best way to cure malaria, we took no steps to see that this was provided in an area where the disease was rife.

But to return to Southend. On Saturday afternoon I attended a lecture demonstration on Empyema—Pathology, Diagnosis and Treatment. In its way this was one of the best I have ever heard. It was given by Dr. R. Sleigh Johnson. He laid no claim to be introducing anything new or to be expounding any research. He did, however, bring the subject quite up to date and covered the whole ground. His method of demonstration was good, passing from the theoretical to the practical and back, and varying the spoken word with the exhibition of radiograms and of diagrams on the epidiascope of mechanical methods of treating the cavity after operation. Of five demonstrations, this was the only one that I attended on the Saturday, but if the other four

were anywhere near this in excellence the course was well worth the two guineas charged for it.

Southend was calling me. I had a 30-year-old memory of its pier and wanted to walk along it once more. This is still a mile long, and on the hottest day a breeze can be felt at the end of it. An electric railway now takes, for twopence, those that cannot walk to the end, which has been expanded to allow the building of a large pavilion and a further area for a band. With its various decks and its numerous chairs it can absorb many hundreds without any sensation of crowding, and, as wind-screens are numerous, it must be possible even in a day of relative cold for the convalescent, the weary, or the merely idle to sit there for many hours with pleasure. As I found next morning, the walk to the end and back forms an excellent pre-breakfast *aperitif*.

In a previous note I suggested that in a visit such as this some time should be given to the place itself, and its historic associations. This place in the past has had one, which is commemorated in its name, for it is the South End of the village of Prittlewell, and to it came for her health's sake the ill-fated Princess Charlotte of Wales, daughter to the Royal bounder the Prince Regent. The Royal Terrace remains a row of delightful small houses dating from the earliest days of the 19th century, standing on such cliff as Southend possesses, with their private road jealously guarded from being taken over by the Municipal Authority.

But history is not merely a matter of the past, and Southend is making history to-day. It has absorbed Leigh-on-Sea, Prittlewell has disappeared into a district. It has become the home of thousands who come up daily to business, or who, having retired, want to keep in touch with London and come up twice or thrice weekly. The hospital serves a population of over 150,000. In a few years Southend may have absorbed Hadleigh and Rochford and its hospital be serving a population of half a million. Actually there are two—or three—Southends. There is that already mentioned, whose inhabitants sit of an afternoon in deck-chairs listening to a band in a well-planned area around the stand. Then there are the Southends of the excursionists.

The more respectable of these come by boat or train and congregate upon the east beach beyond the pier. As the tide goes out for a mile or more there is plenty of room for them—at low tide. But at the high spring tide it is distinctly crowded. At this time for the swimmer bathing is good; deep water is reached at once, and as it has come up over the hot sands it is quite warm without cold currents. The crowd is well-dressed, quiet and orderly. They are the same people as we see at Out-Patients. The town of Southend is trying to deal with the problem of litter—a sanitary measure neglected in this country. In this area it is in some measure succeeding. It is helped by the tea-shops, which advertise, "Pots of tea. Bring your own food, but take your litter away."

The less respectable excursionists come by car, which they park in the road to the west of the pier. In it they bring their food and drink; from it they bathe and produce a gramophone; and out of it they turn their litter before they leave on to the road, the beach and the gardens. They are of no use to the town, which has to spend thousands of pounds regulating this traffic and clearing up its mess. Surgically they provide valuable experience to the hospital by accidents on the new road. Financially, when damaged they are about as advantageous to the hospital as they are to the town when whole. Southend is one of the most interesting places to watch for the future as to the migration of the population, as to how the people are to use the increased leisure at their disposal, and how to deal with the self-contained motorist tripper.

On Sunday I attended a surgical demonstration by Sir William Wheeler. For over two hours he kept us absorbed. To say that he competed with Sir Charters Symonds as a demonstrator of Clinical Surgery is to give the highest praise that a Guy's man of my age can. The cases shown were: (1) Bennett's fracture of the thumb; (2) Injury in the region of the elbow in a small girl; (3) A bad injury of the leg from a motor accident; (4) Fracture of the femur with non-union in a man who had had numerous spontaneous fractures and showed evidence of disturbance of the calcium metabolism; (5) Carcinoma of the gut in a youth; (6) and an elderly man recovering from the third perforation of a gastric ulcer in as many years. It was pleasing to hear Sir William refer on more than one occasion to the debt he owed to Lane for what he had learnt from him. The demonstration of each case was based upon broad general principles, and valuable details were introduced. The operating theatres of the hospital are excellently sited at the north-east angle of the building away from the road and from all entrances to the hospital, and away from any corridors. They are, therefore, protected from noise both from within and without. The pathologist to the hospital is Dr. C. R. E. Freezer, well known to many of the younger Guy's men. It is he that has organised these week-end courses.

But it is not only for its week-end courses that Southend and its hospital should be of use to

medical men. They should be of great value to those reading for an examination who can afford but little time from their books and yet need a change of air. One or more of the staff is certain to be going round the wards or operating on a Saturday morning, and possibly also on Saturday afternoon or Sunday morning. I am informed that they are always willing for men to go round with them, and there is always plenty of good material. A short week-end from Friday evening till Sunday evening should not cost much, and would afford time to see the work of the hospital, walk several times to the end of the pier, bathe, listen to the band, and possibly take a boat across to the Medway and back. Similarly, it is an ideal place for the convalescent with an examination looming ahead, especially for the student from overseas or other long distance. Many such fear to go away, not merely owing to expense, but because they fear to lose time. At Southend they should be able to get lodgings cheap, to do some clinical work at the hospital, and get healthy fresh air while they leave plenty of time to do some reading of an evening or late afternoon. I am sure that any Guy's man has but to write to Dr. Freezer to be put in the way of these advantages.

T. B. L.

Vocational Guidance and Psychological Medicine

By R. D. Gillespie, Esq., M.D.

THE psychiatrist encounters the problem of vocational guidance in its makings and endings, and chiefly hitherto from the disastrous side of both. His role in the past has always been that of the plumber—stopping the leaks; and he must, I think, have suffered from that typical plumber's feeling—which in the traditional psychiatric way he would have veiled with the terminological mystification of "sentiment d'incomplétude"—the feeling that he had left something behind. But now he is furnished with tools ready to hand, in the shape of intelligence tests and, more lately, some tests of special aptitude; as well as very useful plumber's mates in the persons of the psychologist, the vocational adviser, and the psychiatric social worker. For some of this assistance he is under a heavy debt to the National Institute of Industrial Psychology. In addition, the psychiatrist can contribute his experience in the assessment of temperament, to the detection of types prone to maladjustment, whether in occupation or elsewhere, and to the study of the factors productive of nervous breakdowns, as well as of the compensation and occupational neuroses.

All this is in accord with the modern trend of psychiatry, which is increasingly prophylactic. From his too prolonged apprenticeship as a handyman who attempted only repairs—too often when irreparable damage had already been done—the psychiatrist has taken up architecture, so that he now has a share, small, of course, in proportion to Nature's, in determining the lines along which the development of the individual had best proceed. One of the most important of such lines of development is a truly appropriate vocation.

The psychiatrist meets the vocational problem in nearly all forms—I had almost said at every turn. The commoner classes of problem which present themselves to him for advice can be enumerated as follow:—

I. *Among children leaving school.*

(*a*) *Children who have shown signs of temperamental instability.*

CASE 1 may, perhaps, illustrate an attempt to prevent what seemed likely to become a schizophrenic psychosis. A boy of 15 was referred to us because he was alleged to be lazy and irritable, to talk in a grandiose fashion, to be interested in theories of perpetual motion, and to have only one friend. He had had a major cerebral contusion the year before, but even before his accident he had been regarded as "rather a peculiar lad," very dull and slow at sums, dictation and copying. He could not keep his mind on topics of that sort, but had a reputation for unusual scientific knowledge, and spent all his spare time in the South Kensington Museum, writing down the Latin names, etc. When he returned to school after his accident his concentration was even poorer than before. When first seen at hospital the most striking things were his absent-minded and elderly manner, his pedantic use of his words which he clearly did not well understand, and his interest in such topics as a machine flying through the ether. He brought with him the design of a perpetual-motion machine. The design was simple, but fantastic, and his terminology in explaining it a curious medley from many fields of knowledge. He took a very long time to wash, and was reported to be always late for school, and he was continually forgetful even of the meetings of his Sea Cadets. The results of an intelligence test showed that his alleged ability for science had nothing to support it. His I.Q. was 82 on the Binet-Simon scale, and his median on performance tests was 11 years.

He was over-confident, but impatient, uncritical, rapid and inaccurate in his work. He became easily confused and repeated his blunders.

He was sent to day-continuation school, for tuition on practical work principally; he was advised to attend the Sea Cadets regularly and to go to their camp. His sister was urged to give him odd jobs about the house; not to nag or fuss him, and to give him as much opportunity as possible for developing a feeling of responsibility. A bicycle was obtained for him as he did not seem likely to be good at games; he was given some simple advice from time to time, and was made to report regularly. A year later his score on the Binet-Simon scale had risen to 94 per cent. and his median performance tests were well over 16. On this occasion he worked quietly and steadily. He was much more alert, did not mention any fantastic schemes, but instead showed examples of his work at the continuation school. The report from home was that he was now nearly always punctual, had made several friends, and was anxious to get a job, which he has now obtained as an apprentice in an engineering works.

CASE 2 illustrates a more common type of vocational problem. A boy of school-leaving age, previously unstable (truancy) was referred for vocational guidance.

This was a boy of 15, who two years previously had been sent to the hospital on account of truancy. This hinged on his feeling about his father's attitude. The latter was able, but pedantic and over-ambitious, and had made the boy miserable by his criticisms of his school-work, which, to the father's great disappointment, was at that time below average. The father, however, accepted the view that he had been too critical; the boy ceased to play truant and his school work improved so that two years later he was reported as above the average of his class. At this subsequent examination it was found that his I.Q. on the Otis self-administering test was 113, but, further, he was discovered to have artistic ability much above the average. Encouragement to use this ability produced a further increase in the boy's confidence and happiness. His demeanour improved very obviously. He began to work at artistic work of various kinds with an application which gladdened even his father's heart. He was placed in a school for arts and crafts with a view to his acquiring sufficient technical skill to earn his living along those lines.

(*b*) *Children who have been backward in school*, including those known to be mentally defective in the sense of the Education Acts. But there is a certain proportion of children who are mentally defective, but who have escaped the notice of the school authorities except as backward, and who sometimes seem to have escaped notice altogether. These unrecognised defectives represent a serious loss of time and unrequited expenditure of trouble on the part of teachers; they have missed several years in which the proper educational basis could have been laid upon which actual vocational training might have been founded. Children merely backward also represent a loss of a milder kind, since the provision for backward children is nearly universally inadequate.

CASE 3.—Backward girl, leaving school.

A girl of 14 was brought to us by a social worker with the questions: What was to be done with her, as she was about to leave school, and what kind of work, if any, was she suitable for? This girl had been known to the school authorities for the past six years as a very troublesome girl, who was cruel and spiteful to younger children and animals, unpopular with older children, dirty and untidy, and in class very restless. She frequently accosted men in the streets, and in school latterly she had developed "hysterical" attacks, in one of which she sidled up to the headmaster, who was tall, thin and dignified, curled her finger under his chin, and said, "You nice, fat boy." Yet this child had been allowed to remain at an ordinary school, because on the Binet-Simon scale her I.Q. was found to be just above 75 per cent. and because those examining her were perhaps over impressed by the element of so-called "hysteria" superadded to her general instability and inadequacy. On re-testing, however, at 14, she scored only 60 on the Binet-Simon scale and less than 50 per cent. on performance tests. She lacked concentration, was poor in observation, and showed a profound lack of reasoning ability. Her schooling had enabled her to acquire only the vocabulary of a child of eight, and the capacity for mechanical reading of a child of 11 at most. She had been educated in this respect beyond her understanding. It had been recommended that she should seek work. For what work is such a girl fitted? In our opinion, none, until she has had a training in steady habits and in occupations within her capacity for several years. The parents, being themselves defective and unable to appreciate the position (the father described his daughter as having a "brilliant brain"!), such training and discipline could only be obtained away from home. Yet she was by this time too old to be certified for a special school under the Education Acts, or to be charged as beyond control, and not old enough to be dealt with under the Mental Deficiency Act. Consequently, we could not get her

trained in anything but a home for voluntary inmates, and these are few and not well designed to cope with young people who are unstable as well as backward.

(*c*) *Children who are backward in the scholastic sense only* and, while scoring comparatively poorly on the Binet-Simon scale, have an average, or sometimes more than average, aptitude in other directions. Here, again, time has been lost at school. Their education has had a too exclusively literary bias. They leave school and enter upon working life, not only without such training as might, without being specific, have been truly adapted to their capacities and as might have begun to equip them for their work in the labour market, but with instead a knowledge of failure at school.

CASE 4.—A young man, age 20, was referred to hospital because he had never had a job and was becoming quarrelsome and lazy, lying long in bed in the mornings. It seemed at first blush not only as if he were defective intellectually, but was perhaps a candidate for a psychosis.

Inquiry as to his history showed that from infancy he suffered from inability to speak clearly, which affected his school life. Instead of getting special treatment he was allowed to continue in the normal school till he was 15, and suffered very much from feeling his inferiority to the other boys. This made him very sensitive and disinclined to take part in any activity outside his home. He had no work, although he was anxious to learn carpentering, and was spending all his time alone with his mother. He was afraid to go out in the streets for fear of being laughed at.

Examination at the hospital showed that physically he looked younger than his years. He was small in stature and spoke in a small voice, and his conversation was of a kind that suggested continued exclusion from the company of his co-evals. For example, when asked about his loneliness he said, "I stand at the window and say 'Hullo,' to boys as they pass." An intelligence test showed that, although his I.Q. on the Binet-Simon scale was only 70, on performance tests (seven in number) his median result gave him an I.Q. of 97. His failure on the Binet-Simon was mainly in simple arithmetic, and on tests of memory and concentration for digits and verbal material. On the other hand, in performance tests he used deduction as well as intelligent trial and error, and he learnt by experience.

In view of these results he was advised to take up woodwork and other forms of constructive manual work at a day continuation school, and arrangements were made for his joining a social club for youths and young men.

2. Among *adolescents* who have left school and are constantly changing their jobs. These are but a later stage of the first group, plus an additional group reported as normal in every way at school, but in whom instability appears afterwards. As things are at present, however, many young people do not receive any vocational advice or psychiatric treatment until this stage. Presumably no one has recognised the existence of a problem until the actual test of employment has been made. Recently we saw a boy who had had no fewer than 60 jobs within two years. One does not know whether to wonder more at the ignorance of parents, the patience of Labour Exchanges, or the carelessness of some employers.

CASE 5.—A feeble-minded youth, not recognised as such at school.

A boy of 15 had been dismissed by his employers for stealing goods to the value of £27. At the Children's Court the case had to be dismissed because his confession had been elicited under a threat by his employers. The problem was now to find him a job. The father said that the boy did not seem able to grasp the meaning of what he read, and that if he went to the pictures he could give little account of what he had seen. His scoutmaster declared that anyone could make Sam do anything, and that he had recently been induced to be the victim of an indecent assault. The parents' information had to be a good deal discounted, as they wanted to get rid of him. His I.Q. on the Binet-Simon scale, however, proved to be 57 per cent. and on performance tests 65 per cent. Here, again, the problem had not been recognised at school, his education had not been fitted to his capacities, his temperamental weakness had not been allowed for, and he had been allowed to go to work casually chosen and unsuited to him, had failed in the moral sense at it before his other deficiencies had had time to exasperate his employer, and now was brought for advice after years of time that might have been used for suitable education had been lost, and after he had already made a false start at work.

CASE 6.—An unstable youth, dull and backward, with many changes of job.

S. R., age 18, was brought to hospital for vocational advice. No one had been able to teach him to read or write. At school he had been moved up solely on account of age. His first job was with a gramophone company, and he left at the end of two months. His next as errand boy he kept for seven months, and then lost because he was 16 and the firm would have had to pay insurance. He obtained another post as errand

boy, but held it only for a few weeks. His next job, at assembling small parts, he held for six months. Business having become slack he was dismissed, and found a job in a laundry, which he promptly left again as it was not to his liking. Then he returned to a repetitive job he had had before, and remained for a few months until business again became slack. His next job, a domestic one, he remained at only for an hour, and then left as he disliked it.

Intelligence tests showed that he belonged to the dull group. His I.Q. on the Binet-Simon scale was, in fact, only 66, but on performance tests he did much better, scoring 78 per cent. Temperamentally, however, he was unstable of purpose and easily led; he had, in fact, been induced to steal a bicycle on one occasion, so that the problem was a double one—of placing the boy in a routine job not subject to seasonal fluctuations, as that only coincided with his own temperamental inclinations, and under the supervision of someone who would take a sympathetic interest in him.

In this adolescent group, in addition to the aftermath of temperamental instability, backwardness at school, mental defect, recognised or unrecognised, and scholastic backwardness with unrecognised special aptitude, there should be included also the results of simple vocational misfit of boys and girls. These do not come to anyone's notice so frequently at this stage as they do in later life. In youth there is always the possibility of finding still another job, and there is always hope. It is in the thirties, or forties, when the adult begins to realise that his ambitions are far beyond his reach that the results of discontent and disappointment help to produce actual symptoms and to bring him within the psychiatrist's purview. It is especially the more intelligent adolescent who realises his misfit early and begins to be unhappy about it. The simplest example is the highly intelligent youth or girl who, for lack of opportunity or encouragement, has been pushed into taking some routine mechanical job, or some job which, being easily mastered, rapidly becomes a mere routine. Telephone operating by a highly intelligent girl is an example of this type of misfit.

3. The school-leaver or adolescent with average intellect but disproportionate ambition sometimes presents himself for advice.

CASE 7.—Youth of dull normal intelligence with temperamental abnormalities, including inordinate ambitions (schizoid personality).

This boy, who had been employed as a clerk by the same firm since he left school, had applied for a grant of money to enable him to give his whole time to education. He was a keen worker, also had always been very ambitious and had taken evening classes regularly in subjects which his employer had told him would be useful in business. He began to realise, however, that his prospects were limited in his present occupation, and he conceived the idea that he was at a great disadvantage in not having had a University education. He therefore proposed to do one term at a public school and then to go to Oxford. He believed, with some justification, that if his father had not been killed in the war he would have been sent to a University; he felt he was entitled to the same chance as he believed his father could have given him.

Reports from his evening classes showed that he was very regular in attendance and very industrious, but that his general knowledge was poor, his progress at a foreign language unsatisfactory, and his essays in economics " not of the best."

At home he had always been serious, obedient and rather solitary, quiet and shy. He always refused to have anything to do with anyone who was not a social superior.

An intelligence test showed that he scored 89 per cent. on the Binet-Simon scale, which, when all allowance had been made, showed that his ambition was far beyond his capacity. As he had hoped to enter one of the Services, he was advised to enter the ranks and work his way up as far as he could.

4. The ambitious parents of an average boy are capable of producing sufficient unrest in their offspring to bring him under the psychiatrist's notice.

5. A more difficult situation is the appearance in a family of the professional classes of a child whose intelligence and aptitude are considerably below average. If his intellect be so far below average as to make him obviously feeble-minded the problem is to some extent lessened by its very limitations. But the boy or girl, more especially the boy, who may stumble through Common Entrance but is too backward to pass the customary examinations after that, is neither properly cared for by the type of education received at most schools, public or State-aided, nor is at all easy to place in an occupation which will be acceptable to his parents or happy for him.

Psychiatric experience suggests that vocational guidance must not only take account of intellectual and temperamental assets and liabilities, but also of the existence in not a few people of *neurotic symptoms which are definitely disabling for some careers but not for others*. A phobia of blood puts medicine out of court; a compulsion to look back

when driving a car to see if one has injured a pedestrian makes motor-driving a dangerous occupation. Furthermore it is to be recognised, although probably it is only in exceptional cases that the matter is of the first importance, that there often are personal motives for the choice of a given career which are either unconscious or are not brought into conscious relation with the idea of the career, although they largely determine the choice of it. Many people choose careers in the Civil Service or with large corporations because they are afraid of the risks of competitive life and worship security above all things. It is not easy for people without psychopathological experience to credit it, but sadistic phantasies of unusual intensity have helped to determine some doctors to be surgeons. I have known an American football player of renown with homosexual interests of the significance of which he was unconscious, who found his metier in supervising gangs of negroes. The choice by certain males of a career as decorator or dress-designer is well-known as a sublimation of the passive variety of homosexuality. The sublimation in a career of normal instinctive trends of normal strength is, on the other hand, itself normal and healthy. Whether such unusual types of sublimation as have been instanced are healthy, *i.e.*, productive of good of the community and benefit to the individual, depends partly on how far removed is the career from being a direct expression of instinctive trends of abnormal quality or strength and how far other belancing motives can be brought to bear.

So much for the makings of vocational problems ; now for the *results of lack of vocational advice.*

Nervous or mental illness as the result in part at least of occupational misfit is the aspect of vocational adjustment with which psychiatrists especially are brought in contact. But in assessing the part played by misguided occupation in this way, there are several obvious precautions which must be taken.

The fallacy of which patients are often guilty, of projecting their unhappiness upon some innocent object, often makes them blame their work when it is their home-life or something equally personal that is at fault. A large proportion of neurotic patients will tell you that they " loathe " their work ; but so many of them are professedly unhappy in themselves that not merely a fortunate choice of occupation, but, in addition, a singularly fortunate career in it could ever have so far compensated them sufficiently for their misery in other directions as to make breakdown avoidable. Sometimes the connection between a breakdown and the incidence of unsatisfactory occupational conditions is very specious, and only a narrow scrutiny reveals that it is only coincidence and that other more intimate factors have been at work. Naturally patients find it easier to talk of their disappointments in work than they do of their dissatisfactions of their private lives. Furthermore, they are more aware of causes of dissatisfaction originating outside than of those emanating inside, themselves.

With these reservations it may be stated that a proportion of neuroses have occupational misfits as one of their principal factors. The easiest to detect is the instance of the intellectually able person in a routine job.

CASE 8.—A man of 44 complained of thoughts of suicide, including a fear of throwing himself out of a window or under a train, and persistent obsessive rumination over the loss of his hand during the war. He was by occupation a clerk, but was obviously intellectually capable, interested in literature and especially in history. He had aspired to training as an engineer when the war broke out, but, having lost his hand as the result of a shell wound, found himself unable to pursue the occupation of his choice and had become a clerk in the Civil Service. He had always keenly resented the loss of his hand, but realised clearly the harm which his excessive resentment did and often reasoned with himself about it, but without success. He observed that he felt better when he achieved something, and was impatient of work which he did not feel to be creative. In spite of his clear realisation of the morbidity of his state he had been unable without help to prevent a fairly constant preoccupation which had latterly begun to interfere even with his routine occupation.

The results of lack of specific aptitude or failure to use a specific ability come more to the psychiatrist's notice at present from the temperamental side, as when a naturally shy and definitely unsociable person is expected to be a salesman, and a man who is moody, too easily elated or too easily depressed, has to make his living in a job where the conditions of remuneration are variable and uncertain.

It is probable that occupational misfit is responsible for much more invalidism than is represented by the proportion which we have just been discussing of frank nervous breakdown. It has been shown by Culpin that many of the diagnoses of anæmia, " gastric catarrh " and the like in industrial invalidism probably cover what are actually neurotic conditions, and some of them may be largely the result of unsuitable occupation. *Compensation neuroses* offer a wide field for investigation in the same connection. Does a compensation neurosis ever occur in a

man who loves his work? I have not encountered a neurosis of this kind in anyone who did.

With regard to occupational neuroses, the paradoxical reminder must be offered, that this nomenclature is often misleading if it is considered to have any causal reference. In many occupational neuroses, I surmise, the process of emotional displacement is in operation whereby an emotion arising in relation to one set of personal relationships affects an entirely different set of relationships or functions. For example, a chauffeur came with the complaint that he could no longer change gear. Investigation showed that his failure to do so occurred mainly when his employer was present, that he had recently and continuously grossly deceived his employer, and, in addition, his domestic relationships were extremely unhappy.

From such considerations as I have briefly set forth the additions to our vocational *repertoire* that from psychiatric experience seem most urgently necessary are as follows :—

1. An examination of the mental equipment of every school child not later than 11 years of age, so that the number of the considerably dull and backward or actually defective who escape detection in school life might be much reduced, and so that those who were so found should have thenceforward the type of education which is calculated to help and not to discourage them, with the result that vocational training may later have a sound basis. Too often at present we begin vocational guidance unnecessarily handicapped.

2. Greater attention must be paid to the temperamental aspect of personal equipment for life and work. Here the psychiatrists' collaboration should be of special value, since he is always encountering this aspect. Children and adolescents whose temperamental instability is not severe can be managed successfully at home in conjunction with clinics, but the severer types often require a special environment, which usually means removal from home to a place where educational and vocational training can be carried out in conjunction with training in behaviour and self-control. The existence of the temperamentally unstable is usually insufficiently recognised by those who have not psychiatric experience, and legally they are but little provided for, in contrast with those suffering from intellectual defect. Yet they are socially capable both of more good and also of more harm and more unhappiness than are the ordinary mentally defective.

Data are required on the kinds of temperament most associated with the different kinds of job and on the kind of job calculated to act best as a steadying factor for temperamentally unstable persons. Here, of course, enters the important question of the temperamental qualifications of supervisors, foremen, etc. I suppose we have all had the experience of getting a disproportionate number of neurotic breakdowns from a certain department of a large works.

From the aspect of vocational selection also it seems very desirable that some persons at least aspiring to occupy positions of responsibility in the professions, whether of teaching or preaching, of medicine or the law, should be submitted not only to vocational tests but psychiatric examination before they are allowed to enter upon training for such a career. A recent inquiry into breakdowns among school teachers showed preponderance among teachers of infants, and my experience of the middle class patients in a certain mental hospital suggested that school teachers were disproportionately represented among the professional classes.

Nursing News

SOME SOCIAL ACTIVITIES OF THE STUDENT NURSES' ASSOCIATION

MUSIC

THERE are times when the casual visitor to the Nurses' Home must for a moment feel that he or she has inadvertently strayed into a music academy.

Strains of violin and piano penetrate from the Head Nurses' sitting-room; from the waiting-room voices may be heard in solo or duet; and when the wireless in the big sitting-room does not burden the air with music from the great, lesser artistes perform therein to the mutual satisfaction of their friends and themselves.

The chief cause of this unflagging industry in the art of music-making is the prospect of a series of short concerts to be held in the Nurses' Home during the autumn and winter months, the first of which was held about three weeks ago and met with much appreciation from those who really enjoy good music.

SWIMMING

On Friday, August 11th, an amusing swimming night was held at the Baths. The programme was of an original character which did not necessitate

the performers being up to a Channel swimming or racing standard.

The first event, a breast-stroke race, was accompanied by much effort on the part of the swimmers and laughter on that of the audience, who, we feared, became very damp outwardly as time went on, but remained encouraging and high-spirited to the end. The race was won by N. Steeds.

Figure diving was then performed, and a bean-bag team race with this result :—

1st Year *v.* 2nd Year—
Winners, 1st Year.

1st Year *v.* 3rd and 4th Year—
Winners, 1st Year.

The captain of the 1st Year team was N. Janse, who managed to collect some very keen swimmers.

The 2nd Year team was unfortunate in having its captain " off sick " at the last moment, but her place was taken by N. Glennister.

The Floating Manœuvres, arranged by S.N. Nockolds, were a great success, and we should like to see another exhibition from her " floaters " very soon.

Much merriment was caused by the Obstacle Race, the chief obstacles being the dampness of the matches with which competitors were required to light their candles and the balloons which had to be blown up with what little breath was left at the end of a hard swim.

The organisers hope to repeat the effort before the colder weather sets in.

FUTURE ENGAGEMENTS

The secretary is making arrangements with the College of Nursing for a series of talks to be given on the different branches of the nursing profession, the first of which will be held on September 11th or 12th. It has been decided to make three divisions, each of which will occupy one evening, grouped as follows :—

1. " Home Nursing," including Queen's Nursing, Public Health, Industrial Nursing, etc.
2. " The Services," Army, Navy and Air Force.
3. " Overseas and Colonial Nursing."

These will be given in the Nurses' Home by people who are actually engaged in the respective branches of the profession, and we are certain that such first-hand information will interest trained and training nurses alike, who, we hope, will arrive in large numbers and make the coming meetings a success.

Correspondence

" Similes "

To the Editor of the GAZETTE

SIR,—I have read with interest Mr. Layton's paper. Before his time I clerked to Dr. Taylor, but have forgotten his cavilling. My grievance against him, estimable man as he was, would, I feel sure, have been shared by Mr. Layton. He had a few pet theories, one of them on the production of cardiac murmur. Certain pestilent fellows used to follow us round, and it often happened that about the tenth bed one of them would drag one of these as a red herring across the trail, and then we were in for it. They could leave at any time, but the firm could not. However, it was then approaching 4 o'clock, and the rest of the round was finished in record time, the neglected ones being compensated by his beginning the next round at the other end of the ward.

In my opinion the arch-caviller of my time was that great, if somewhat pedantic scholar, Dr. Pye-Smith. I can hear now his " Oh, indeed ! " when he scented a victim. One unfortunate described a percussion-note as " boxy." " Oh, indeed ! What sort of box ? Tin box ? Wooden box ? Iron Box ? Full ? Empty ? Half-full ? " And so on.

When discussing aortic murmurs he asked one man what a water-hammer was and got the reply, " A kind of bird "—presumably a cross between a water-wagtail and a yellowhammer.

I think it was the same man who got into trouble over a perforating ulcer. " Has it gone through the foot ? If not, it can't be perforation. There is no doubt that the Romans, when they invented the word, meant ' going through ' " I could have countered this by saying that an ulcer which has perforated can no longer be perforating, but as I did not belong to the firm and some of my friends did I did not wish to subject them to an irrelevant and useless argument.

Yours, etc.,

R. L. WASON.

25, Maple Grove,
Bath.

To the Editor of the GAZETTE

SIR,—Mr. T. B. Layton gives as apology for not making an application to be one of Dr. Frederick Taylor's medical clerks, " because

he had the reputation of always cavilling at words and of nagging at the clerk's terminology instead of getting on with the case and teaching medicine." I should be surprised if it were endorsed by many old Guy's men. I was clerk to Dr. Taylor and never witnessed it.

Dr. Frederick Taylor was a high-minded man. He was conscientious, thorough and very careful in diagnosis; every abnormal symptom had to be accounted for. They were the days of observation and deductive reasoning. He was ever courteous to clerks and patients. Of course, he did not wear his heart on his sleeve for " heretics " to peck at.

Sir Frederick Taylor, I used to think, resembled John Morley (Viscount Morley). They had the same austerity—something of worth to preserve. I can see him now coming into Mary Ward, dignified and businesslike—I wish it were a reality.

Yours, etc.,

RICHARD GILLBARD.

36, Dean Road,
N.W.2.

(We have received the following letter on the same subject addressed as a reply to Mr. Layton.—EDITOR)

DEAR MR. LAYTON,—Really you do hoist yourself on your own petard. One could not, perhaps, call that a simile, especially as I cannot see how one can use a petard for hoisting purposes.

I recall you as Guy's champion similologist, always excepting Pembrey, who could parallel the transmigration of the soul with a cow's digestion; therefore I smile to hear you attacking the simile.

You know this particular figure of speech is so integral a part of our language that we can scarce frame a sentence without using it. *Par exemple*, you tell us you " struggled " for the Matric. and " wrestled " with a description. Nonsense; both are physical muscular exertions, and there are no muscles in your ratiocinating centres (at least, I hope not).

Again, how can a book be a " monument " save by simile? I go so far as to say that most language is simile, calling up the picture of a parallel to the mind. But that is a quibble.

The simile is the finest mnemonic. Dare I admit that I remember your Rabelaisian similes rather better than your more academical disquisitions? I dare—but, mark you, each one has its useful tag of erudition indissolubly affixed.

Try to write a paragraph without simile. Nearly all adjectives must go; you could not have a " sunny " smile, a " dawning " intelligence, or even a " hearty " laugh, nor could you " fulfil " a wish, or an aspiration, or even a contract—nothing, in fact, but a vessel such as a basket or a pint pot.

However, what I want to cross swords with you about is that, after preaching verbal accuracy, you make a glaring mis-statement, and in one tiny word. Here it is: " We say it (the bottle of medicine) acts BUT by suggestion."

I agree that a large percentage of all medical treatment is suggestive—that a larger percentage should be. After all, we have to deal with " the vast army of the uncertified sane."

I agree most cordially that the bottle fetish is more often than not merely the liquid concentration of suggestion. Nevertheless I don't like that word " but," or only as the sense of it goes.

I put it to you that the action of castor oil is rather more palpable than psychic thought projection.

Surely there *are* such things as therapeutically active drugs. Quinine *does* affect malaria bugs. I know! I am their unwilling host and have just taken a whacking dose of that filthiest of all drugs.

Besides, I have looked after some 50,000 natives (in darkest Africa, *vide* " Trader Horn "), where there is as yet no bottle idolatory (it will come; give it time). And I maintain that my heroic dosing certainly produced results rather more forcible than suggestive.

Would you say that the results of repeated heavy dosing of ergot were *but* suggestive? Of cantharides? I once gave a dog a dose of the latter. He knew nothing of suggestion, but he died of a surfeit of love!

But perhaps I mistake you. Perhaps you mean that the bottle is the means whereby the suggestion is suggested (try it in your bath). If so, where are we? The bottle then becomes a sort of portable potable practitioner, and very nice too. By all means condemn overbottling, but give the bottle its due.

And now please pass the Keystone burgundy to,

Yours, etc.,

" SCRIPTSAM & GETSAM."

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

An Annual Occasion

ST. THOMAS'S STREET may have seen better days, but it still has its little traditional festivities. Thus in the person of the Dean it rouses itself annually in stern defiance of the Matron's challenge to a tennis match.

This year, as Matron found herself able to call on a team including several old Blues, the Dean was forced to produce his single pediatrical counterpart from No. 6, where the plates of the younger generation hang heavily upon the ancient door. The prevailing breeze along St. Thomas's Street being westerly, Matron, of course, got wind of this and immediately enlisted the services of Mr. Fagge as umpire, a tactical move to which the Dean was prevented from making any really effective reply by reason of a sudden arthritic indisposition. However, an obstetrician was called in to deal with the resulting breach in the Dean's team, and the match duly took place at the Nurses' Cottage on the evening of Wednesday, August 23rd, when mainly on account of superior verbal by-play, St. Thomas's Street eventually emerged the inglorious victors by seven sets to one.

In the opening encounter that quiet, firm Great Ormond Street way with children, coupled with an erratic obstetrical delivery, prevailed in both sets against a strong Bright Annexe—Theatres combination. With this centre court display well in progress, dermatology and medicine arrived, but lost at least three games in the side court, getting a conversation going against the determined opposition of Patience and a Medical Night, eventually winning their first set by means of a device known as "the best of three." Their opponents were not to be caught a second time, however, and squared this part of the match in triumphant fashion and with considerable umpirical encouragement. On the change over, Children and Obstetrics again carried all before them, while Dermatology and Medicine, despite a certain amount of barracking from the "hill" and elsewhere, again brought off their "best of three" ruse twice running. By this time, dishonour having been more than satisfied, the umpire, at Matron's instigation, allowed an appeal against the light, thereby enabling her to invite everyone to supper and show, as well as she could in the absence of the Dean, that it was all intended to be friendly and no harm meant.

"HECTAGONAL."

Reviews

Guy's Hospital Reports. Vol. lxxxiii, No. 3, July, 1933. Edited by ARTHUR HURST, M.D. Published at Guy's Hospital, London. Single Numbers, *Price* 12*s.* 6*d. net.*

THE HOSPITAL REPORTS, like the prophet, seem sometimes strangely without honour in their own country. Yet literary features which offer a pleasant contrast to the majority of medical reading are not often lacking in their pages, and it is comforting to find our own journal held in great esteem abroad. The current number commences with a finely written memoir of the late Sir Charters Symonds from the pen of G. F. Stebbing, who presents the exciting career of a striking personality in an extremely attractive manner. Surgical biography might be expected to make good reading, but so clear a picture of a great man and his teaching is rarely forthcoming within the limits of a formal tribute.

In the twelfth of his series of "Studies on Tumour Formation" Professor Nicholson continues the erudite exposition that is the literary embodiment of an unique range of reading and observation in the stimulating field of oncology. For those who regularly sip their Nicholson this is indeed a vintage year in which an unmistakeably physiological—one might almost say Pembreyan—bouquet is combined with a substantial "body" of the soundest pathological opinion in Europe. Thus we read, "it is impossible to approach a problem with a perfectly open or blank mind," since "knowledge is remembered perception of sense differences, and science perception of similarity in difference," and later that "malignancy is a problem in dynamics," the conclusion being that "tumours and tumour formation are rightly understood on physiological principles alone." Should their author see fit to neglect a collected issue of these "Studies" in book form, then the Reports containing them would seem to be likely to acquire fresh value in future years.

On the less literary side, P. M. F. Bishop, actively engaged in the sex-hormone field, contributes a lengthy paper in which the merits of the Friedman test are carefully compared with those of other procedures for the detection of pregnancy. An original modification intended to eliminate the uncommon cases in which error may arise from variability in the test animals is also described. Mr. C. H. Fagge and Dr. A. F. Hurst record an unusual case of chronic duodenal ileus following malrotation of the mid-gut which was successfully treated by operation. Dr. F. A. Knott's paper contains an interesting analysis of the results of duodenal intubation in 200 cases of gall-gladder disease. The findings in connection with the detection of the presence of cholesterol stones by the frequent microscopic demonstration of comparatively large surface fragments appears to be of considerable importance. In the eighth of their " Studies in Bright's Disease " A. A. Osman, H. G. Close and H. Carter pursue their investigation of the part played by acidosis in the incidence of acute diffuse glomerular nephritis. A variation of the serum bicarbonate similar to that present in scarlet fever has been found to occur in the streptococcal tonsillitis of children. The difficult ætiology of the associated renal conditions is thoroughly discussed and the probable direction of further work indicated.

E. T. C.

William Gray Testimonial Fund

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Notice

UNITED HOSPITALS SWIMMING CLUB

The Annual Gala will be held at Marshall Street Baths on Tuesday, September 26th, 1933, at 8.30 p.m. The Bath is within one minute's walk of Oxford Circus.

The Inter-Hospital Swimming and Diving Championships will be decided and the Nurses' Inter-Hospital Swimming Cup.

There will also be an exhibition of fancy diving.

Tickets may be obtained on application to the Swimming Secretaries.

Euthanasia

"WELL, sir, will you buy the little cutter? Thirty pounds down and she's your's. I allow she's old, but as you well know, they don't build like they used to, and at 50 years of age she's just seasoned—yes, nicely seasoned, I call her, and with a scrape of paint and some new running gear she'll carry you wherever you want to go."

The shifty-eyed boatman, in whose dirty office-cum-storeroom I was sitting, took a breath and prepared to enthuse again, but I cut him short. "I'll give you ten pounds for her."

"Ten quid! Do you think I'm here for my health?"

"No, I don't," I replied, looking with disfavour round the room, "but perhaps I'd better tell you who I am and why I'm here. Eight years ago I owned that yacht (the man's face fell a yard), and when I had to give up sailing there were soft places under her quarters, and I got a low price accordingly. What's more, she's been in that mud berth (which so skilfully conceals those quarters) for a year and you haven't sold her. Now I don't want to buy her to sail—she'd go to pieces in the first blow—but for sentimental reasons I want to save what was once a very gallant little ship from rotting on the mud by the old oyster boats there, or, garnished with a match-board hencoop and a few old motor tyres, ending her days in some nasty backwater. I intend to take and sink her in the Swin or Barrow Deep. Ten pounds."

My speech had a good effect on Mr. Snaith; he ceased being the breezy seaman and, like all his class when a deal goes against them, began to whine. He hadn't known who I was; he had been grossly deceived by the last owner; he thought the deadwood was sound (didn't he just!); he'd only been waiting for a man who would really care for "the little cutter," and, finally, he would take 15 pounds.

"You shall have your fifteen on one condition," I said, "and that is that you lend me some sort of a motor boat to get back in," and after a bit more backing and filling the deal was concluded on those terms and I found myself once more the owner of "Bobbolink II" (Ugh!), one time "Grey Sea" and companion in many a high adventure.

Now George (once a partner in "Grey Sea") and I had managed to make one week of our respective holidays coincide, and we went down to Burnham to prepare our ship for her last cruise. It was a heartbreaking job to work on the caricature of our once spick and span boat; bare wood showing through the blistered paint on her sides and deck, green moulds growing in the bilges, sails torn and mildewed, whilst the best we could say for her mast and standing rigging was that they would probably stay in the boat if she didn't roll.

Slowly we made her ready for sea, if the words can be applied to our sorry travesty of fitting out. We set up her rusty shrouds, bent the mainsail to its spars, roughly caulked a number of leaks, and used many fathoms of new rope before we could make good the deficiencies in running gear and hoist her sails. At the end of three days we decided that she would do, so, hurrying through the final preparations, we got a few stores on board and, when darkness fell to hide our shameful progress from those who would not understand, we dropped down the Crouch and anchored at Shoresend for the night.

Next morning we were up at daybreak to find a nasty-looking sky and a thin south-west wind giving promise of more to come. The two good barometers which used to disport themselves on the cabin fore-bulkhead had gone long since, or we might have received sufficient warning of what was brewing to prevent us leaving the mouth of the river.

As it was, we hoisted sail and shaped a course down the Whitaker Channel, trailing behind us the dubious outboard motor-boat of our bargain. Past the once familiar Bukey buoy we sailed, but when we were abreast of the Heaps it became obvious that the wind, before which "Grey Sea" was running in something like her old style, was increasing rapidly, and that we should have grave difficulty in getting back from the Whitaker Beacon in the motor boat. There was nothing for it but to turn round and try to beat back. We hove to, double-reefed the mainsail, stowed the foresail and changed to second jib, as we feared mightily for the gear. Then, with our hearts in our mouths, we got her going again.

Soon the first tear appeared in the mainsail, and, rapidly extending up the cloth, had barely gone two feet before three other tears or parting seams had started, so that George and I exchanged looks well realising that the sail was not going to get us home. The strong wind blowing against the flood tide was causing a short steep sea to run, and the old ship was dancing about, each sharp pitch or roll being accompanied by a maniac's chorus of squeaks, grinds and groans. Presently, as she flicked up on a wave, a cascade of water shot out of the cabin and George, diving below,

emerged with a white face to announce that the pull of the chain plates was opening her side like a rotten orange box and that the sea was coming in merrily. That decided things; we must bring up, and that right speedily, so, whilst I began to pump furiously, we made across the channel and dropped anchor under the lee of Foulness Sand.

In a short while we had stowed the sails, pumped out the majority of the water and settled ourselves as well as we could to await events. Each succeeding gust of wind seemed stronger, and as the water deepened on the bank with the rising tide, the yacht snubbed savagely at her chain, which was grinding its teeth on the bitts. She pitched and rolled violently in the increasing seas, till suddenly the pitching ceased and she was only rolling. No need to ask what *that* meant—the chain had parted and we had no choice but to run before it, so, hoisting the foresail, we shaped a course for the Swin and the North Sea.

Then began a nightmare sail. Early on we cut away the motor dinghy, after its third partially successful effort to come aboard on the crest of an overtaking wave, and she steered the better for its loss. A little later we looked hungrily at the Barrow Deep lightship away over to starboard, but an attempt to make towards her opened our seams and we had to run dead before it again, for when the strain of the mast was taken by the runners instead of the shrouds we found she did not make much water, and we could fight an even battle with the pump.

Neither of us have much recollection of the next nine hours, and after a while, drenched, hungry and cold, we toiled on like automata, and as we drove it seemed that the sea was exulting at the capture of "Grey Sea" and her crew together. Occasional incidents seemed to stand out from their background like the white crests of the sullen waves behind us. Of these I recall the moment when the helm began to get stiffer and move in a quaint way, showing, I suppose, that the upper rudder clasp had torn from the rotten sternpost; or when the top of a wicked sea hissed over the weather quarter and foamed into the cockpit and cabin. Perhaps clearest of all was the time when the pump-leather gave out and we continued the fight, now clearly lost, with the bucket.

In the late afternoon, when despair was at its blackest, new life was put into our aching bodies by the sight of a slender pencil on the horizon ahead, which was clearly not the mast of a ship. There was but one thing it could be—a lightship. With renewed energy our blistered hands took to the bailing, and we prayed that the foresail would continue to hold. Dip and swing we worked like machines, and as each gave up exhausted he took his spell at the hardly less heartbreaking tiller.

For an hour, reeling and lurching drukenly, "Grey Sea" staggered on whilst the lightship grew slowly bigger. Now at last we could read the name sprawling along her side—"Sunk"—and could see her crew lining the rail watching us. A vivid picture of that last hundred yards will always be in my mind. I hold our course right for the lightship and George, divining my intention, nods agreement. Her crew are waving their arms and yelling now, but what do we care; she'll take no harm from a buffet with us. Her great red side heaves up on a wave, and at the last moment I shove the tiller hard down so that, with a crash of splintering wood, we strike her a glancing blow, then, as she rolls ponderously down on us, we leap clawing for her rail and are dragged safely aboard by eager hands. Gasping our thanks to the men we turn to see the last of our ship—but "Grey Sea" has already gone to a sailor's end 70 feet below.

G. N. W.

Hospital Information, etc.

Pass List

LONDON UNIVERSITY.

M.D.

July, 1933.

BRANCH I.

Medicine.

P. M. Moffatt †G. P. B. Whitwell

BRANCH III.

Psychological Medicine.

C. E. Allen.

BRANCH IV.

Midwifery and Diseases of Women.

L. G. Housden.

† Awarded a Mark of Distinction.

M.B., B.S., SECOND MEDICAL.

July, 1933.

PART I.

J. R. Audy
L. H. Boyd
N. C. Creighton
A. Crook
A. G. Dabbs
P. H. Denton
I. G. B. Drybrough-Smith
J. D. Ebsworth
E. S. Foote
P. A. Gardiner
H. J. Holford
J. K. Kilpatrick
C. L. Kimelberg
A. S. Lee
K. G. Pascall
S. H. Raza
R. A. Stenhouse
C. W. Stewart
I. E. J. Thomas
J. A. F. Tobin
A. Walton
D. S. Wilson
C. F. Wright

M.B., B.S., FIRST MEDICAL.

July, 1933.

W. E. W. Bridger
C. N. Brown
R. M. Corker
R. V. Coxon
A. Crook
†J. J. Davis
A. M. Edwards
P. G. Epps
F. E. Falconer
E. S. Foote
J. B. Franklin
P. A. Gardiner
A. C. Greene
P. K. Hopkins
C. L. Kimelberg
F. McCombie
A. H. Mayne
C. R. Morgan
H. D. Smith
C. J. Stewart
J. A. F. Tobin
R. A. R. Topping
T. L. Weston
D. S. Wilson

† Distinction in Inorganic Chemistry.

SOCIETY OF APOTHECARIES OF LONDON.

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July, 1933.

Anatomy.

W. J. Helliwell.

CONJOINT BOARD.

July, 1933.

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A. Black
A. M. Hutton

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*E. L. Moll
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A. Woolstone
H. E. W. Hardenberg
†E. Gill Carey
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A. L. Peers
L. Merrill
G. E. Paxon
T. G. Humby
M. J. Lange
E. Ashman
N. O. Paterson
S. E. Roberts
E. Gareh

FINAL EXAMINATION.

SECTION I.

Pathology.

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R. H. Blazeby
J. M. McArthur
L. N. Trethowan
J. Greenhalgh
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P. E. Cresswell
J. F. A. Forster
W. H. Hamilton
A. E. Ginn

PART II.

Medicine.

*F. A. Nicolai
*L. R. L. Edwards
*L. J. Stoll
*H. V. d'A. Iles
*T. Fichardt
*L. Z. Cosin
F. H. D'Souza
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*W. G. Stanford
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*M. L. Walt
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C. J. F. Blumenthal
R. F. Raw
J. S. F. Sutton
R. S. Vine
K. H. Wright
B. L. E. Wong
D. S. Piper
J. W. Mansie

*Now holds Diploma

Papers by Guy's Men

C. de W. Gibb. Congenital Glottic Stenosis. *B.M.J.* 1933, ii, 334.

Birth

SLATER.—On August 15th, 1933, to Nancy (nee Peal), wife of Harold Slater, at The Retreat, Woking—a daughter.

EDS. { M. J. McA. C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

WHILE the rest of the Hospital slumbered in the comfort of an August heat-wave, the Medical School, ever young and vigorous, burst forth into a blaze of unbounded energy to freshen its own appearance and brighten its interior. For some time the flight of steps leading to it had been in need of repair, and this the Works Department were able to manage, working in their own quiet and leisurely way during the last month. This makes in itself a smart enough approach, but it is only a small preparation for the impressive sight that lies ahead. When once the narrow portal has been passed, the picture of a new commissionaire established in a separate office at once meets the eye. Resurrected from the depths, from the dustbins, the musty lockers and the clothes lines, the new official sits, not this time in his shirt sleeves, not even in the uniform of a hospital porter, but in a regalia that is his own—white cloth-covered cap, epaulettes, and, to complete the picture, shining buttons in abundance. He is the complete custodian. No ticket has he to issue as you might expect, nor will he even circulate those familiar punched coins with which to redeem your hat and coat at the end of the day. They are things of the past, for every student has now a locker to himself in the basement.

It was a delight to see that the Physiological Laboratories have been so completely renovated. New parquet floors, shining new benches, a complete new system of lighting and several other alterations have changed their whole make-up. The Department has been re-arranged and planned on two floors, keeping the ground one for the new Biochemistry Section. When the benches are moved there is a wide expanse of parquet flooring, and here a new use may be found for the commissionaire. Let him issue tickets for the dance.

It is largely due to the enthusiasm and energy of Dr. W. R. Spurrell that these changes have been so efficiently carried out. Dr. Spurrell has succeeded Prof. Pembrey as Lecturer in Physiology, and all Guy's men will be glad to welcome him back. He has as his assistant Dr. P. M. F. Bishop, who will lecture in Biochemistry. Between them they are making several alterations in the Physiology course, but we are especially glad that they are keeping alive Prof. Pembrey's ideal of a close link between Physiology and Clinical Medicine. Any clinical investigation that may be used in the wards is to be standardised, and will first be learnt thoroughly in the Physiology class. The difficulty of hæmoglobin estimations they hope to surmount by installing both the Haldane and the acid hæmatin methods in every medical ward, and teaching both methods in the School. It was a happy idea for the Physiologists and the Pre-Clinicals to join together in the Clinical Physiology class. It is by such means that the connection between the School and the wards becomes a close one.

CONSIDERABLE apprehension has been aroused among House-Officers by the recent edict concerning access to the Bacteriological Laboratory. It has been decreed that, when the Laboratory is closed, only members of the Visiting Staff or the Bacteriologists themselves may have the right of using the key which hangs in the Front Lodge. The H.P.'s privilege to enter the Laboratory at any time has been withdrawn. To add to the difficulties it so happens that not one of the Bacteriologists is a College Resident. It is true that sera for blood-grouping may in future be obtained from the ice-chest in the Clinical Laboratory, and while this may be the commonest facility desired in the middle of the night, it is by no means the only one. Cerebro-spinal fluids

have not uncommonly to be examined at this hour, and while patients perversely insist on having nocturnal rigors, facilities for an immediate blood culture should always be at hand. In several other ways the apparatus and material in the Bacteriological Laboratory is constantly in demand. Were such apparatus available elsewhere in the Hospital, and of ready access, there could be no ground for complaint. But the fact remains that at the moment it is not, and while this is so, to deny the H.P. the facilities of the Bacteriological Laboratory seems to us a retrograde step and one productive of considerable inconvenience. Finally, where is the ice-chest?

▭

IT is indeed a rare honour to be President of the Royal Society and of the British Association in the same year, and all Guy's men will like to congratulate Sir Frederick Gowland Hopkins, himself, of course, one of the most distinguished of Guy's men, on his great distinction. We shall soon have the opportunity of doing so, for Sir Frederick is to deliver the Opening Address and present the prizes at the opening of the Winter Session on Tuesday, October 3rd, at 3 p.m. The title of his Address will be announced later.

▭

IN our last issue it was announced that the United Hospitals' Swimming Club will hold their Annual Gala at Marshall Street Baths on September 26th at 8.30 p.m. It promises to be a very successful evening. Tickets are free, and may be obtained from Mr. Winston at the Medical School Office. To cover the expenses of the evening a voluntary fund is being organised, and subscriptions may be sent to the Swimming Secretary, Mr. G. Thurston.

▭

ALL praise to Mr. W. H. Ogilvie, who was the only Englishman to win a First in the 12 square metre Sharpie Races held at Burnham recently. We hope that this great triumph did much to temper the disappointment of an icy immersion in a later race. Surely it will not be long before he begins to win races on land as well as sea. Never have we seen anyone who can drive down St. Thomas's Street at such a speed, and enter through the front gates with such a flourish!

The Diagnosis and Treatment of Trigeminal Neuralgia

A Clinical Lecture delivered at Guy's Hospital by C. P. Symonds, M.D., F.R.C.P., August 28th, 1933

GENTLEMEN,—Paroxysmal Trigeminal Neuralgia, or Tic Douloureux, is by no means an uncommon malady. Its pains are probably the most excruciating in human experience. The diagnosis as a rule is simple, and relief by means of injection or operation can be given with certainty.

We know nothing of the ætiology or pathology of this malady, nor are there any objective signs to guide us in the diagnosis. We are chiefly dependent for this upon a precise analysis of the patient's sensations, in which some knowledge of the points especially to be looked for is essential. In addition, there are one or two negative conclusions which must be arrived at before the diagnosis is complete.

The disease is one of elderly persons, seldom beginning under the age of 50, often over that of 60. It is more frequent in women than in men.

The pain is distinctive in its distribution, its character and its precipitating causes. The area first affected is confined to a part (rarely the whole) of the area supplied by one of the divisions of the fifth nerve. The second division is that most frequently involved, next often the third. Very seldom is the area of the first division primarily affected. The pain may be referred to the mucous membrane of mouth or nose, the tongue, the jaw or the skin. It is described as stabbing or burning, or compared to the thrust of a red-hot needle or "electric wire." The paroxysm is sudden in its onset, rapidly mounts to its climax and as rapidly subsides, seldom lasting for more than a minute, often less. Such paroxysms may be of isolated occurrence or may follow one another in such close sequence that the patient for many minutes, or even for hours, is scarcely free. Under such circumstances the patient may declare the pain to be *continuous*, but careful questioning will prove that this is never true.

During a paroxysm the patient will remain immobile, usually with her hands pressed to her face, and there may be a flow of tears from the eye on the affected side, or of mucus from the nose.

Whether these paroxysms occur singly or in volleys, they tend in the early stages to be grouped in bouts spread over a few days or weeks, with a subsequent interval of relief.

Though the paroxysms frequently occur without apparent reason, they are especially apt to be provoked by certain precipitating causes. Chief among these is movement of the face or jaws such as is involved in eating, speaking and laughing. Often a touch upon some particular spot of skin or mucous membrane will suffice, so that the patient dare not wash her face or introduce food into the affected side of the mouth. Such areas

are appropriately known as trigger areas. In seeking to describe this aspect of her complaint the patient will often speak of " tenderness," but again the careful question will elicit a description of something which is quite different from tenderness as we know it. Often a jar or a sudden shock —the slamming of a door—will provoke a pang.

Examination of the functions of the fifth nerve in such a case will show no organic defect. The corneal reflex is normally present, there is no loss of sensation to cottonwool or pinprick, or any wasting or weakness of the masseter. This examination suffices to exclude organic disease, such as tumour or syphilis involving the nerve, as a cause of the pain, for, although such organic disease may occasionally give rise to pain comparable with that of true trigeminal neuralgia, it will always produce objective signs as well.

Another important cause which must be considered is disease of the teeth, which should always be examined by a competent dental surgeon before the diagnosis of trigeminal neuralgia is made. For this method of examination I would refer you to Mr. Hopson's excellent address printed in the *Guy's Hospital Reports*, 1927, xli, 174.

The most important test is the thermal. Mr. Hopson's conclusion to this address contains the dictum: " If you cannot restore a tooth to a condition of perfect health do not hesitate to remove it. Never cap an exposed pulp which has given rise to neuralgia." To this I would add the following: Remember that true trigeminal neuralgia is a distinctive and individual malady which is not caused by active dental disease, nor will it be relieved by the extraction of teeth. In referring your patient to the dentist, therefore, do not transfer to him the whole responsibility for relief of the pain. Make it clear to him that the diagnosis rests between that of trigeminal neuralgia (*not* of dental origin) and dental neuralgia. Invite his opinion on the state of the patient's teeth in relation to this question. Invite him if he finds a tender pulp to repair or extract that tooth, but do not allow him to extract teeth wholesale in the hope of effecting a cure. Most of the patients I see with trigeminal neuralgia have already had all their teeth on the affected side hopefully and unjustifiably removed, and are much the worse for it. The anæsthetic gum which they will have, after the neuralgia has been eventually cured by injection or operation, does not suffer a denture gladly. Do not allow yourselves to be persuaded that chronic oral sepsis or pyorrhœa can be the cause of paroxysmal pain.

The course of trigeminal neuralgia is as follows: After the first bout, as I have said, there is usually an interval of relief, often lasting for months, sometimes even for a year or two. During this period the patient is completely free from all liability to pain.

Those who are unfamiliar with the natural course of the malady often take to themselves the credit of a cure—until the pain returns. They may, even so, comfort themselves with the assurance of a " final cure," for the second bout may be followed again by an interval of some months' relief. I have seen several patients " cured " by extractions on the first occasion, " cured " a second time by incision of the gum and scraping of the alveolar margin, only to relapse once more, and this time after a shorter interval. Each bout tends to be more prolonged than the last and the intermissions shorter. The distribution of the pain, meanwhile, increases, spreading to the areas of the neighbouring divisions and finally involving the whole trigeminal field.

The only means of complete relief is destruction of the nerve affected, by alcohol injection or section of the sensory root of the fifth by intracranial operation. In favour of injection it may be said that it is without risk and that there are a good many persons who are able to perform it with reasonable certainty. Against it there is the fact that when the 2nd or 3rd divisions are separately injected the result is not permanent. On an average, relief lasts for 18 months. It may be shorter, or it may last, as in one case of my own, for five years.

Injection of the Gasserian ganglion, if the alcohol penetrates deeply and evenly, will achieve permanent relief, but this injection is, in my experience, more difficult and less certain than in the case of the separate divisions.

In favour of intracranial section of the sensory root is the certainty and permanence of the cure. Against it is the severity of the operation (even in the most skilled hands) and the difficulty of obtaining the services of a surgeon who has so specialised in this particular operation as to make it justifiable.

In America, where " neuro-surgery " under the lead of Harvey Cushing has for many years claimed the whole-time services of many of the best men, the mortality rate has been reduced to one or two per cent. Nevertheless, one must consider carefully before subjecting an elderly, debilitated and probably arterio-sclerotic subject to an intracranial operation even in the best hands.

For the technique of alcohol injection I would refer you to the account given by Dr. Wilfred Harris in his book on " Neuritis and Neuralgia," or his paper on the subject in the *British Medical Journal* of July 16th, 1932.

The 3rd division is best reached from the side. A line is drawn with a skin pencil along the lower border of the zygoma. A point on this line one inch in front of the centre of the external auditory meatus gives the surface marking of the foramen ovale. This, however, is best approached from a little in front and below. A line joining the lower border of the nose and lower border of the external auditory meatus will correspond with the upper limit of the notch of the mandible—the lowest point at which the needle can be introduced. Mark a point on the upper line one quarter of an inch in front of the point overlying the foramen ovale. Draw a perpendicular line downwards from this and at the point where this intersects the lower line the needle should be introduced and directed upwards at an angle of about 30° and slightly backwards.

The patient is prepared by being given $\frac{1}{4}$ gr. of morphia and 150th gr. of hyoscine hydrochloride half an hour before the injection is commenced. The skin is then infiltrated with a few drops of novocaine. The needle used for the injection, devised by Wilfred Harris, is of small bore and has a length of 7 cm. It is introduced slowly, a drop or two of novocaine being injected *en route* if necessary. The patient, who should be drowsy but sufficiently awake to answer questions, is instructed to describe to the operator the character and situation of any sharp stab of pain which he experiences. When the point of the needle strikes the 3rd division the patient will experience a sharp twinge referred deeply, or sometimes to the lower lip or tongue. At this juncture a few drops of novocaine (I use a 5 per cent. solution) are injected. The patient is asked to pay attention to any sensation of numbness or tingling that develops. At the end of a minute or two sensation to pinprick is tested over the area supplied by the 3rd division. If the patient has experienced numbness in this area or some degree of anæsthesia is found on testing to pinprick the stilette is again withdrawn and a few drops of absolute alcohol injected. If the needle is in the correct position the patient will at once experience a severe pain locally which spreads into the appropriate areas of cheek, lip and tongue. The point of the needle is then introduced a little further and more alcohol injected, a few drops at a time, until complete anæsthesia to pinprick is established over the whole area supplied by the 3rd division.

The route taken to arrive at the 2nd division as it comes out of the foramen rotundum is through the pterygo-maxillary fissure. The needle is thrust into the angle between the coronoid process and the lower border of the malar bone upwards at an angle of 45°, and in a plane corresponding with that of a line drawn on the skin from the point of insertion of the needle to the point at which the frontal process of the malar bone rises from its body.

For injection of the Gasserian ganglion the same route is employed as for the 3rd division. After this has been struck and anæsthetised the hilt of the needle is depressed and the point worked gradually into the foramen ovale. After each advance a few drops of novocaine are injected and the patient's sensations, or loss of sensation, observed before alcohol is injected.

This method of injection under morphia and hyoscine is much more certain and safe than injection under general anæsthesia.

The operator will learn from experience the sensations which will be described by the patient if, for instance, in an injection of the 3rd division the aim is incorrect and the needle strikes the Eustachian tube, or if, in injecting the ganglion, alcohol escapes into the subarachnoid space.

The latter accident is harmless if no more than a few drops of alcohol are thus injected, but under a general anæsthetic a considerable quantity of alcohol may find its way into the spaces surrounding the cranial nerves without the operator's knowledge and with resultant paralyses.

I would advise anyone of you who wishes to become proficient at injection of the Gasserian ganglion and its branches first to study the skull and test with his needle the angles of approach to the foramina, and next to practise injection on the cadaver in the P.M. Room. Choosing a subject in which the brain has been removed, he can, by injecting a solution of methyline blue, test the accuracy of his approach to the ganglion.

Alcohol injection for trigeminal neuralgia is by no means an easy or a certain procedure. The secret of success lies, I think, in patience and the determination not to inject alcohol until a suitable response to novocaine has shown the point of the needle to lie in the correct place. One has sometimes to abandon the first attempt, perhaps after half an hour of probing, and try again after a few days' interval. It is very seldom that relief cannot be given by injection, but there are cases in which possibly owing to anatomical peculiarities it appears impossible to hit off one or other foramen.

It is well, therefore, to explain to the patient before injection that relief cannot be *promised*, and that in case of failure the intracranial operation may be necessary.

Unfortunately, as I have said, the effects of a successful injection are not permanent (except in the case of complete anæsthesia following injection of the Gasserian ganglion itself). Second and

third injections are less certain in their effects. After each injection some scar tissue will develop, and as the result the alcohol on the next occasion will not permeate to the nerve fibres so easily. This has an important bearing upon the choice between operation and injection in relation to the age of the patient and her probable expectation of life. In the case, for instance, of a healthy individual, aged 50, with a second division neuralgia, I believe the right plan is to attempt an injection of the Gasserian ganglion rather than the second division, and if this should fail, or if after a partially successful injection the pain should recur in a year or two, the operation should be recommended.

The greater difficulty in obtaining a satisfactory anæsthesia from second and third injections indicates also the wisdom of postponing the first injection for as long as possible. I have already mentioned the possibility of a long period of spontaneous relief following the first bout of the malady. For this reason it will be better, if possible, to tide the patient over the first bout by means of analgesic drugs. Of these a mixture containing—

Tr. gelsemii	10 m.
Pot. brom.	10 gr.
Liq. arsenicalis	1 m.
Aq. chloroformi ad.	½ oz., t.d.s., p.c.,

is the stock remedy, to which 10—15 minims of tinct. opii may be added in severe cases. But if these medicines, together with complete rest, do not bring relief in the course of three or four weeks, it will probably be necessary to proceed to injection.

I hope that some of you may be induced to practise injection in the post-mortem room in the way which I have suggested. You may discover in yourselves a natural aptitude for it. There is certainly room for more who are able to relieve trigeminal neuralgia by this method.

Words and Phrases: II.—Cavilling

By T. B. Layton, D.S.O., M.S.

I AM glad my former notes gave rise to so many letters. They raise points which show that some interest was taken in the subject, and this encourages me to go on. Before doing so it may be well to recapitulate the train of thought that I strove to raise. This was as follows: (1) Language is but the vehicle of thought; (2) Therefore when loose language is used it infers looseness of thought on the part of the user. (3) In medicine, care of thought is the most important factor for successful treatment; (4) Therefore in medicine accuracy of description and care in the use of words comes before all else. (5) But students cannot be convinced of this; if one spends one's time trying to get to the meaning of the terms they use they simply will not listen. It is useless to continue the subject with them. (6) Therefore we teachers must influence them by example rather than by precept, and ourselves show meticulous care in our choice of words and the way we use them. (7) But all medical men must to-day be teachers. (8) Therefore it is worth while dealing with the subject in a series of short articles in the *Gazette*.

It is interesting to note that the importance of all this is only realised in advancing years. It is the senior members of the Staff who are accused of cavilling and quibbling. Drs. Wason and Gillbard each qualified in 1892 and I in 1906. When they were clerks it was Dr. Pye-Smith who was the "arch-caviller," and Dr. Frederick Taylor was about 44 years of age. When I was a clerk the former had "gone off" and Dr. Taylor was 58. In case my memory had failed me I asked an old Guy's man of my time who wandered into the theatre from the Colonies. His answer to my inquiry about Dr. Taylor was, "Of course. He spent all his time quibbling about words." Let it not be thought that I now apply the word "caviller" or "quibbler" to Dr. Taylor. My respect for him is far too high, and I now know that he was right—in theory, but not in practice.

A year ago I had a most interesting conversation with an elderly physician, a teacher at another university than ours. He told me how of late years he had taught more elementary and more elementary things as he went on, and he thought that the right way to organise teaching was the opposite from what we do now. His idea was that the seniors should teach the elementary part and the juniors the advanced. After careful thought I think now he was right. After the age of 45 it is hard for a man to absorb new ideas; he can do so but in part, and by the age of 50 he has so much to do, his fingers are in so many pies, that he cannot give the time to read, to analyse and to criticise all the new work of his subject. If he does so he gives the impression of striving vainly to "keep up to date." He fails utterly. He merely gives the impression of running after

Youth; he tends to try new things because they are new rather than because they have reason behind them. It is those at above the age of 30 that are mature but still young that can adequately deal with the literature that is poured out upon us, sorting out the good and applying it, putting the useless aside and stamping out the bad. And if this is so they should teach the new and the advanced stuff, leaving to their senior the elementary. For it is only these that can realise the importance of this part, and from their ripe experience exemplify it. A minor physical sign in the hands of a registrar is but of academic interest, but with the senior it becomes one of vital importance, for from his memory he can quote cases where the observance of some minute point has turned the diagnosis and saved a patient's life. Elementary morbid anatomy from the mouth of a junior demonstrator sounds like a reading from a third-rate book. But when Dr. Fawcett did post-mortems these same points were illuminated by clinical teaching and when he had done, Sir Cooper Perry again went over the viscera with his clerks, touching on a number of points that even Fawcett had passed by.

And when the Senior touches elementary teaching he is bound, sooner or later, to turn to the meaning of words. He must consider when it is essential to disagree with his students' terms and when they are immaterial to the description, however poor or ugly they may be. To refrain from the former is to betray his trust; to haggle over the latter may be called cavilling.

There are good examples of both these in Dr. Wason's letter. I am all with Dr. Pye-Smith in objecting to the term "boxy" without further explanation. I would add to his questions whether if half-full the contents were coin or feathers? and whether the box was standing on a table or the floor? The discussion would lead to the very basis of the interpretation of physical signs. These might all be thrown away if the description is not to be more exact than "boxy"! But when he turns to the meaning of the word "perforation," there, I think, there was cavilling. It may be a matter of interest to the classic what the Romans meant by a word, but the essential point to the student is what the Englishman of to-day means by it. We may take another example from the notices and advertisements that emanate from the Medical School Office. Mr. Croucher liked the word "commence"; he rolled it on his tongue and used it on every occasion, and there it stays in our notices, which say that such a course of classes will commence on such a date. Now I hate the word, but love the word "begin," which is crisp and sharp and suggests that one is going straight off the mark instead of dallying in the first week, as "commence" seems to me to connote. If the word "begin" is to be found in our Green Book and other publications, it probably dates from my short tenure of the post of Sub-Dean. While holding this august post I was quite at liberty to do a little peaceful penetration for my friend "begin," but had I insisted upon Mr. Croucher and his satellites erasing the word "commence" and substituting it before a single notice had been posted this would have been cavilling.

There are, perhaps, some for whom all this teaching is a waste, perhaps because they cannot understand it, or because they interpret it as inferring that it is the words themselves that are important rather than the meaning that underlies them. I suspect that the junior partner of Messrs. Scriptsam and Getsam belongs to both categories. His anonymity lays him open to attack. He does not understand the difference between a metaphor and a simile.

The whole of our language abounds in metaphor, but in colloquial talk I think we seldom use a simile. Without metaphor we cannot get on in English, we must be careful not to let it become too flowery, but if we drop it altogether our language soon goes stale. Mr. Getsam recognises this, but thinks he is talking of similes.

One of the greatest difficulties in teaching is the way words change. Colloquial words do so, and the new meanings get attached to them when used in medicine, and medical words change, too, as concepts of pathology are altering. I suspect that the word "cavilling" is changing and becoming stronger since Johnson defined it as, "To raise captious and frivolous objections." It seems to me to-day to bear a trace of unkindness in its meaning as well as of frivolity, and so I am sorry if I suggested that the students said Sir Frederick "cavilled." Let us say instead they said he "quibbled."

III—That's Obvious

I FIRST came across this phrase when I was Surgical Registrar, for I found myself using it about something that I could not explain, but which I wanted accepted as a fact before I went on to my next point. For the last 20 years I have urged my dressers that, if they care to catch out an assistant physician, or to prick the bubble of an eloquent registrar, they can do so

if either use this phrase. For they have but to say: "Well, Sir, I know I am a hopeless fool, but to me it does not sound obvious. I wonder if you would mind explaining it to me." No ward clerk ever said that to me, but then I was fortunate in having, during my first three months, a batch of clerks that was one of the most remarkable that Guy's has known. It may be possible to appreciate that statement when it is learnt that both Drs. Mutch and Barber were in it. I will not say there were others that were better, but I am pretty certain that there were anything up to a dozen who were about as good. Now it is no good saying, "That's obvious," to men of that calibre if you are going to teach them anything. You just cannot do it. Students never realise what an influence they have upon teachers. Even the eldest teacher rises to a good batch of students, and the junior's career as a teacher may be made or marred by them. Just as he is launched, a number of inattentive, foot-shuffling, get-the-work-done-quickly-and-clear-out sort of fellows may so discourage him that he gives it up and takes to collecting limpet-shells as a life's interest. It is not the brilliant or the brainy batch that helps one on, but rather the nice, clear-eyed sort of fellows who take an interest in what you say without either swallowing it all as gospel or refusing to accept a single point as true. Nor would I support the student who reads up of an evening the rarer issues of one of his own cases in order to present an intricate pseudo-intelligent question the answer to which he knows, in the hope that his physician will turn round and ask it him again.

To-day I no longer want to catch out registrars, but for the benefit of the community I do want to diminish the use of the phrase, "That's obvious," in medical teaching.

Now it is no use trying to stop changes in the English language, and it is fairly certain that the words "obvious" and "obviously" are becoming more common, and are weakening in meaning as they become more often used. It is of no more use trying to oppose this change than it was for our grandparents to oppose a similar weakening of the words "awful" and "awfully" in the late eighties and early nineties of the last century, or than it would have been to oppose the strengthening of the words "lewd" and "vulgar" after the Elizabethan period. One sees the words constantly to-day—in a leading article of *The Times*, in a stockbroker's report, in an annotation in the *Lancet*. And in every case the strongest interpretation one can put upon the words is probably, and very often possibly is all that the context will allow.

But that we are using the words more freely and more frequently in colloquial expression is the very reason why we must be the more careful in the way we use them in our art. A good example of the way they are used in clinical medicine occurred in *The Times* during the heat-wave. A correspondent who signed himself "Interested" went to Whipsnade, with which he was delighted, except for the pit in which the tigers were kept, and in the course of a plea for these animals he wrote: "The obvious distress of the tigers at present there, the fact that a predecessor died in a fit in the water, obviously brought on by the heat, and the comments of the spectators should, I think, ensure the tigers' return to London." The use of "obvious" in this extract is hardly justified, but that "obviously" was wrongly employed was easily demonstrated next day by Sir Chalmers Mitchell, who wrote to say that the tiger with the fit was an old one which had suffered for years from epilepsy from which he died.

Can we lay down any guiding rules as to the legitimate use of the term? I think we can. If anything is so in one's way (*ob vius*) that the appropriate sensory impulse must arise it is legitimate to use the word "obvious." The mind must, indeed, be in a state to appreciate it, but the moment it has to do more the word is out of place. As soon as any form of thought, deductive or inductive, is employed, nothing is obvious. The word may be used to register a sensory expression, nothing more; and even then in all strictness only as applying to a single individual. It is a change from the strict use of the term to include simple deductions or inductions that is making it so common a term in colloquial English. In the accurate English of teaching and of medicine it should never be allowed to step over the line of demarcation between the two mental processes.

It may be urged that in a syllogism it may be so certain that one conclusion only can be deduced from the premises that it is allowable to call this conclusion "obvious." Experience teaches us that such a thing very rarely happens; either another conclusion is possible that has been overlooked, or some premiss is missing that may alter the case if it is wrong. In his "Observations on the Conduct of the Minority" Burke wrote, "It appears obvious to me that one or other of these two great men, that is Mr. Pitt or Mr. Fox, must be Minister." The premiss that is here understood is that there was no third person capable of being Premier. But suppose that dark horse had turned up. The history of Europe might have been altered. Mr. Burke, wise man that he was, wrote, "It appears obvious to me." The modern writer would have said, "It is obvious

that . . ." The death of Pitt showed that Burke was right, but he went about as far as is justifiable in the use of the word " obvious " in that sentence.

Let us consider some examples of how the word may be used in its proper sense of something lying in one's way or something which it is impossible to miss. Physical signs of smell afford good examples. There are certain smells we cannot fail to notice—that of a fried-fish shop is one. Strictly speaking, it is neither the shop nor the fish that smells ; it is certain chemical substances resulting from the repeated boiling of the same fat, but in our minds these are associated with a fried-fish shop, and when a patient comes into our Out-Patient Department emitting that smell we know at once either that he or she works in a fried-fish shop or is one of the family living in the house attached to it. We say this is obvious, but what is obvious is the smell of the acrolein in the patient's clothes and on his skin. The deduction that he comes from a fried-fish shop comes from other experiences. These may have been obtained on extern duty coming back at night up Kipling Street and seeing Britain's " Little Wonder " facing us from Snowsfields. What a scene that would have been for Whistler ! I am sure he would have etched it had he ever been an extern. I have often wondered why we go to Bruges to see picturesque slums when we have such examples near by us. Then as we come to the corner the smell of the frying fat strikes us, and we hasten along Snowsfields as quickly as we can.

Another physical sign of smell is the sweet, sickly odour of acidosis from a child's breath. This is one to which the brain must be tuned. To me it is often obvious without leaning forward, while my house-surgeon and the nurse are barely able to appreciate it even when bending close. It is well, again, to educate the hippocampal gyrus to diphtheria, a thing I have never been able to do. But to one who does the diagnosis is made easy and lives may be saved thereby. I remember once going over a case and discussing all the possible causes of an inflamed throat, putting out this, that and another—including diphtheria—by the light of reason, and then turning to a dresser to ask what was left, and he said, " Diphtheria." So I went all over it again, and again he said, " Diphtheria." At this I exploded, and asked him why he said that, and he answered, " Because it is diphtheria." At which I snapped, " How do you know ? " and he answered, " Because I can smell it." He was quite the dullest dresser I have ever had, but he was right. His sense of smell was more accurate than my reasoning. This was fortunate for his patients, for I doubt whether he would ever have spotted diphtheria otherwise.

And just as we can educate our hippocampal gyrus to recognise a smell, so we can do so to ignore it. This I have done with ether, which I do not now notice except by a conscious effort, and often go home to find the smell is obvious to all my household while I am quite unaware of it.

Other physical signs of sight and hearing may be obvious to the skilled observer and not so to the tyro. Thus I may see a bead of pus within the middle meatus of the nose that my dressers are unable to observe. Here must we use Burke's phrase, " It appears obvious to me," and we must be very careful to limit the use of the term to the presence of the bead of pus. It is never obvious that it comes from one of the sinuses as distinct from being secreted by the nasal mucous membrane, still less that it comes from any special sinus. There is many a person has had an unnecessary operation performed owing to looseness of thought on this point.

There are other physical signs to which the word " obvious " should never be applied, either because the grading from the bounds of normal anatomy is so fine and gradual, or because in examining for them we are, without realising it, making deductions from the correlation of our present examination with past experience. A bilateral paralysis of the larynx probably comes under both these heads, and a slight œdema of the face under the former. I think that physical signs of touch well exemplify the latter, and doubt whether the word " obvious " should ever be applied to them. The induration of the Hunterian chancre, the hardness of an early malignant ulcer of the tonsil, the raising of the rose-spot in typhoid—all these may seem obvious to the experienced, but I doubt whether sensory education is enough to account for it all.

It is necessary to remember that the layman soon picks up the jargon of the doctor, and to-day there are many " medically-minded lay-people " —to quote a well-known lady doctor—helping on committees or working in the administrative departments of hospitals and clinics. It is most necessary that with a word that is weakening in colloquial language we should be most careful in its use in medical conversation with such people. The other day a case of chicken-pox got into my ward, and we were discussing the disposal of a contact with a member of the administrative staff, who said, " If the child is fairly obviously not going to develop the disease, I suppose she can go to the convalescent home." I wonder which H.P. had used the phrase " fairly obviously " to the administrative staff ; chicken-pox " fairly obvious " two days after the period of isolation had begun ! Would not the people at the convalescent home have blessed us had we sent her !

A Mathematical Analysis of the Element of Uncertainty in Blood-Counting

By R. A. Ratcliff, M.A., M.B.(Cantab.)

THIS analysis was prompted by curiosity, excited in its turn by the increasing insistence on details of technique in the enumeration of blood cells and the tendency for research workers on hæmatology to have their apparatus checked by physical laboratories. It seemed that it was possible to improve technique too much, and to take precautions which were unnecessary owing to the element of uncertainty to be described below. The analysis has not proved to be at all destructive; on the contrary, it is surprising how little the total counts depend on uncertainty, though the results in the case of the differential count were not unexpected. The assumption has been made throughout that technique, apparatus and observer have been perfect, and the inquiry has been confined to matters not capable of elimination with the present method of enumeration; in short, what is the irreducible error of the experiment?

In performing the total red or white count, the correct result will only be obtained with certainty if the volume of the blood and the number of cells in the circulation be estimated with ideal accuracy. But, in order to make the counting practicable, small measured volumes of blood or of diluted blood are employed. There is then an implied assumption that, with good mixing, a proportion of the whole volume will contain the same proportion of the whole number of cells; also that in the counting chamber the cells will arrange themselves evenly over the field, so that the counted area holds a proportionate number of them. There is no guarantee that either of these assumptions is valid, and there enters into the determination that element of chance which has been analysed.

The calculations dealing with the total red or white counts have not been of much value. The observer must be assumed to be perfect, but unintelligent, unable to discriminate between good and bad arrangements of cells over the field, and such an observer would make so many bad counts that his results are not of very great interest. Such an observer, counting the red cells over one particular area containing about 1,000 cells, would have only an even chance of being within 7 per cent. of the correct result. If, however, he counted the same area in many small sections, noting the results, and then neglected those figures differing markedly from the mean before adding up the number of cells counted, he would stand a very much better chance of being right. To take one particular example:—if he neglected figures differing by more than 5 per cent. from the mean value, he would stand a chance of 500 to 1 of being within 5 per cent. of the correct result when he had finished.

Similar results have been obtained for the total white count, but as they are of no significance they are not set forth.

These calculations are not dependent on the type of counting chamber used, the factors of importance being the original diluting pipette and the number of cells actually counted. As all types of counting chamber arrange for a convenient number of cells enumerated, the results for different apparatus are very similar.

Investigation of the differential count has been more significant, because questions of the geometrical distribution of the cells do not enter into the conditions of the problem. The possible error of the perfect observer will here be due to the failure of the cells counted to be accurately representative of the white cells of the blood. The element of uncertainty arises because the cells counted may not be a true sample of the leucocytes in the circulation, and it is an uncertainty entering into the determinations of quite human observers every day; the calculation is, therefore, set forth at length.

If an infinite number of cells are counted, the given type of cell will appear in its true percentage, and the total number of leucocytes in the body is a reasonable approximation to an infinite number.

By a standard algebraical theorem, the chance that any cell is of the given type is

$$\frac{p}{100}$$

where p equals the true percentage of the cell.

If $100a$ cells are counted, the chance that n are of the given type is

$$\left(\frac{p}{100}\right)^{n} \qquad (1)$$

The chance that $(100a-n)$ cells are of other types is

$$\left(\frac{100-p}{100}\right)^{100a-n} \qquad (2)$$

The chances (1) and (2) are associated and are independent. The chance that both "events" will happen together is therefore

$$\left(\frac{p}{100}\right)^{n}\left(\frac{100-p}{100}\right)^{100a-n}$$

But a particular n cells have been taken, whereas n can be chosen in any way.

Therefore the chance that this particular incorrect percentage appears in the $100a$ cells counted is

$$ {}^{100a}C_n \left(\frac{p}{100}\right)^n \left(\frac{100-p}{100}\right)^{100a-n} $$

Working from this expression, the following results have been obtained :—

If the true polymorph percentage is 70—

The chance of estimating it within 5 per cent. if 200 cells are counted is 71.5 per cent.

The chance of estimating it within 10 per cent. is 80 per cent.

If the true lymphocyte percentage is 20, the chance of being within 3 per cent. if 200 cells are counted is 54 per cent.

The chance of estimating within 5 per cent. is 67.5 per cent.

The expression of the chance of an event happening as a percentage implies that it will happen in this number out of 100 trials.

they state that it is not to be interpreted as if it were an exact determination, where variations of a tenth from the usual figures indicate true abnormality. If small variations are to be determined with accuracy, the number of cells counted must be very large, and this would make the count impracticably tedious. There is some doubt, too, as to whether the accepted normal figures are sufficiently constant to enable any small variations to be recognised.

Applying this table to counts made for ordinary diagnostic purposes involves a distinction made between a chance which is to be neglected and one which is too remote to be reliable. Here, therefore, mathematics gives place to matters of opinion. Probably a determination of which the chances of success are greater than 80 per cent. is reliable practically, while any chance below 50 per cent. indicates a thoroughly unreliable result.

The figures in the table are all very much smaller than those obtained in analysing the total red or white count, and they therefore show that

TABLE OF CHANCES OF ESTIMATING CELLS PRESENT IN SMALL PERCENTAGES WITH REASONABLE ACCURACY.

	Number of Cells Counted—	100	200	300	400	500
True Percentage. of Total Whites.	*Allowable Deviation from True Percentage.*		*Percentage Chance in Favour of Success.*			
1	*Exact*	36.7	26.7	65.8	57.3	84.5
2	½	27.8 *Exact*	58.3	48.7	65.4	56.4
3	½	22.9 *Exact*	49.3	39.5	54.3	50.7
4	½	19.6 *Exact*	42.2	34.8	48.9	45.0
5	1	53.3	59.2	66.3	68.6	73.8
6	1	48.9	54.4	60.9	64.1	68.5
7	1	46.3	52.2	58.1	63.3	66.2
8	1	42.7	49.4	55.1	59.6	64.3
9	2	63.0	73.2	80.0	83.3	86.4
10	2	60.4	71.6	78.1	78.2	85.4

The figures in the table are seen to be so irregular as to suggest arithmetical error, but if it is remembered that they deal with the vagaries of individuals and not the more uniform behaviour of a mob, the explanation is readily seen ; in all cases the figures have been carefully checked.

Authorities on blood-counting emphasise the limitations of the differential blood-count, and the total count is a very much more reliable investigation than the differential count.

Throughout the calculation the factors of experimental error and the " personal equation " have been neglected; or, rather, it has been assumed that they are represented by unity and have not affected the result—the apparatus has been assumed to be perfect, and the observer faultless if un-

intelligent. In practice the imperfections of apparatus and the intelligence of the observer work against one another. It might be possible to include these in the theoretical discussion by making some very arbitrary assumptions as to their respective effect. But this would involve further application of probability, and also the theory of the credibility of witnesses; it would be irrelevant to the present purpose, and can be found fully investigated in the higher algebraical text-books.

No reference has been found bearing on this analysis; the theory of Probability is discussed in the "Encyclopædia Britannica."

Correspondence

Team Work

To the Editor of the GAZETTE

SIR,—I read "Passim" in the *Gazette* published on August 19th with a feeling, shared, I feel sure, by many of my contemporaries, that a halt should be called to the very modern demand for "team work." Its advocates who shout so loudly have drowned the still small voices of those who have experienced the results and can estimate the future effects of this doctrine on the general practitioner and his work. The self-confidence and independence of thought and action that the community have ever depended upon in "the doctor" are by this doctrine annulled. A small, in fact a minute, fraction of the cases that come to the G.P. for advice require this team effort, and yet the doctrine is being pounded into the student and the young practitioner with disastrous effects on their capacities as medical men.

The great majority of patients belong to categories easily determined by a decently educated doctor: gout, tuberculosis, cancer, tonsillitis, diabetes, etc., and he should be capable of treating them, or at least of alleviating their sufferings. Nowadays they are taught that a team must be turned on to these problems and that they are neither expected nor can hope to undertake their management "on their own." The doctor is robbed of belief in his own capacities, his independence is suppressed, and he necessarily becomes as a medical agent declared to me last week, a mere signpost to consultants and to hospitals. My personal experience of "teams" has not been happy. A man, æt. 55, slowly developed paraplegia. In hospital every modern investigation was undertaken. No diagnosis could be arrived at. He has nearly recovered.

A woman, aged 40, was gradually becoming deaf, and her discs becoming atrophied. Every investigation led to no diagnosis—save myxœdema, which was ridiculous.

A young woman was confidently diagnosed by several men as chronic appendicitis; on laparotomy it proved to be a cancer of the ileum.

An X-ray specialist of 20 years experience said that there was no stone in a kidney; another that there was—a surgeon removed it. And to this I could add several more from my minute experience, but refrain.

If we would but admit the necessary limits of our knowledge and justly estimate the enormous powers entrusted to us for good, greater efforts would be undertaken to exalt the G.P. and his work. As member of two large medical societies and President of the Richmond B.M.A. I have noted with continual regret that the younger men do not attend the meetings, not even the clinical ones. Surely the reason is that this team-work stunt has been so drummed into them that an "inferiority complex" has been established, and therefore they feel it useless to learn their business as they will never be called upon to utilise it, but must dispatch everything to a "team" of workers.

A composite investigation may be of tremendous importance to an individual case, but the advocacy of such a method as a universal panacea for the ills of the people is destructive of that independence and initiative so essential to the G.P. for his own welfare and, therefore, that of the general community.

Yours, etc.,

VAUGHAN PENDRED.

326, Upper Richmond Road,
East Sheen.

Water Divining

To the Editor of the GAZETTE

SIR,—I should like to mention this incident. Some years ago I was waiting for a train on a Malayan railway platform and met an acquaintance and incidentally mentioned some recent correspondence in the press about water-divining. He told me he was a water-diviner and offered to show me how it was done. He cut a twig from a bush close by and we walked along the platform. When we got near the end the twig stood up nearly vertically. We had reached

the railway water tank. Neither of us had been aware that this station had one. It was then being filled by a pump which we could just hear on listening carefully. This was not a planned experiment; my friend was just showing me how it was done. Thanks to the unknown water supply the demonstration of water-divining came off.

Yours, etc.,

A. REID.

Tapah,
Perak, F.M.S.

(We cannot continue this correspondence—ED.)

Let us Practise what we Preach

To the Editor of the GAZETTE

SIR,—This seems a favourable moment, when the subject of teas at Dental Society meetings is under discussion, to consider how far our principles, as dental men, apply to our diet.

It has long been an anomaly that the teas provided at these meetings should consist entirely of refined carbohydrates, and that of all foodstuffs none are so likely to produce dental caries as buns, cakes and doughnuts. Thus it may so happen that a member will rise up in the meeting and gravely explain at some length the prophylactic treatment of caries to other members who listen complacently, the while their gingival margins are clogged with the fermentative debris of their recent "meal."

Nor, in this respect, is the Guy's Shop free from blame. Here one may browse at one's leisure amongst all the confectioneries and pastries devised by the hand of man—and not a few do so. These then return to their work of conservative dentistry with unclean mouths and gums, such that they would not care to see in their patients.

Everybody should know the importance, from the dental point of view, of completing a meal with fresh fruit. How many do so regularly? It is surely better to bestow a little thought on this subject rather than to dig one's grave with one's teeth.

If a dental man does not instruct his patients, particularly those of the younger generation, as to the correct diet which will assist in preventing oral sepsis, then he is neglecting one of his most important responsibilities. Yet how can his words carry weight if he himself does not practise the instructions which he gives to others?

He who really believes in the precepts of his profession should be the one to show the way.

Yours, etc.,

"PROPHYLAXIS."

The Students' Club,
Guy's Hospital,
S.E.1.

Reviews

The Health of England. By T. W. HILL, M.D., D.P.H. Published by Messrs. Jonathan Cape, Ltd.

THIS book is intensely personal. It begins with a short prologue headed by the stanza from Blake's "*Milton*":—

"I will not cease from Mental Fight,
Nor shall my sword sleep in my hand,
Till we have built Jerusalem
In England's green and pleasant land."

Because of his belief that this time will come, Dr. Hill has written this book.

It ends with a short epilogue that is an uncompromising oath of allegiance to his own ideals and conception of the State. "I am for the State. I am the enemy of all who would dethrone the State."

A small chapter entitled "The Art of Administration" gives the author's concept of genius.

These three sections form the frame to the book and are significant. The main matter gives a complete account of the public health services of this country, with their historical foundations—"I will now give an outline of each service and suggest, in passing, any necessary alterations or extensions." The word "necessary" is also significant.

The whole subject is treated as by one having authority. There is nothing from the general scheme of administration or the planning of towns to the recent psychological or eugenic innovations upon which Dr. Hill fails to generalise, criticise and state *necessary* reforms. Little seems too small to be included, nothing too large. Nowhere is there any probability or deference to alternative

views; always the final certainty of his own uncompromising judgments.

The book is almost encyclopædic and contains a great part of the information to be found in standard text-books of Hygiene: tables of expenditure, the function of ductless glands, bacterial counts for milk, the methods of sewage disposal—but most of the matter is presented in such a manner as to convince the reader that behind the book-learning there rests considerable experience and thought. It is a complete hygienic creed and programme for reform.

Will the book achieve the ends we are encouraged to believe governed its publication? Sir W. Arbuthnot Lane suggests in a Foreword that it will help to awaken a health conscience in the masses. That Jonathan Cape are the publishers suggests matter of general interest. To me it appears probable that the inexperienced mind will lose sight of our more urgent needs and the glory of our ideals among the galaxy of unfamiliar details. With a more than average knowledge of the subject, at the first reading I found the scope and detail of the book overwhelming. And surely if this had been written primarily for the enlightenment of the general public there had been more deference to the opinions of other authorities and less dogmatic self-assertion. At least we cannot say, "No zeal, no faith, no intellectual trenchancy, but as much low-minded geniality and trivial complaisance as you please."

Are there other factors and possible unexpressed motives that would make this apparent redundancy seem reasonable? Dr. Hill is Deputy Medical Officer of Health to West Ham—a comparatively junior post in the service. He has passed authoritative judgment upon every branch of the service and stated "necessary" reforms—"Out of the chaos of the present I have tried to reconstruct an ordered future!"

Upon what authority does he speak? Is he the official appointed voice of the Ministry of Health or has he their support in this venture? He denies that his views are necessarily shared by even his own Local Authority. Are his views sufficiently orthodox within the higher quarters of the Ministry of Health to receive its sanction? We are not told, but rather does Dr. Hill lay repeated stress upon his own authority, his own integrity. I think it also significant that he has such well-defined views upon genius, and that he has been led to study the lives of many great men.

I repeatedly return to my first dominant impression that Dr. Hill feels himself capable of reforming the public health services of this country, that this is his greatest ambition and that he is determined to seek the opportunity to do so. Only in such a light does the book become intelligible to me. With this conception I can understand why Dr. Hill has included many things that will do little to interest the general public, but may display to suitable eyes the extent of his knowledge, the aptness of his criticism, the wisdom of his proposed reforms and an urgent enthusiasm to be up and doing.

So it seems to me that this book is a challenge to the existing order, perhaps more in its promise of action than in the unexpected nature of the proposed reforms. By this I do not suggest that the latter are not adequate nor the outcome of Dr. Hill's own experience, thought and effort, but they seem in general those for which a number of people will have already felt a need, some because they have suffered, some because they are interested in the public health.

The accusation may be brought against Dr. Hill that any attempt by one man to generalise upon so many matters in so short a space must result in superficial and inaccurate judgments. This is not necessarily so. A man of sufficient calibre and virtue will usually need few words to go direct to the chief issues in any problem and point the way to a remedy. The need for much discussion arises as a rule from insufficient intelligence to see the main issues or, having seen them, lack of the virtue to state them direct and ungarnished.

It is now unwise to stop without answering two further questions. First, are the given facts correct? Second, are the proposed reforms wise and practicable? As far as my experience permits I believe I can justly answer "Yes" to the first. The second must be confined to personal opinion.

Upon those matters which I have considered more vital and to which I have previously given some energy and thought, I find sanity and clear thinking leading to good conclusions. Upon many matters I find new ideas expressed with a striking and convincing clarity. The matters for criticism are mostly apparent contradictions of his own ideals and easily explained as a failure in amplification. We quite rightly object to the too literal interpretation of a sentence apart from its content. To write is to transpose separate thoughts from a flowing content in the mind; it is to describe a few details only, in a changing picture. So apparent contradictions may often be resolved if we could see the complete mental image that had called them forth.

For myself, I would ask one more question. Is Dr. Hill the man to lead us some distance to—

"... Jerusalem
In England's green and pleasant land"?

Can he repeatedly and fearlessly assault the opposition until he has brought some of these things to pass?

The whole book may be taken as an attempt to fulfil Dr. Hill's own demands from a good administrator: "He must know his work intimately, not merely the text-book learning of the student, but the scientific appreciation of all the medical and social ramifications of Preventive Medicine. He need not, indeed cannot, be acquainted with all the detailed knowledge required by the officers in charge of his sub-departments; but at least he should understand the general principles underlying the work of each section." In fact, I believe that, directly or indirectly, in one place or another, he suggests a claim to most of the attributes he wishes in such a man. This is not difficult with pen and ink, but there is no reason to doubt that Dr. Hill will now be called upon to live according to his ideals.

Despite certain faults exposed in his book, chief of these a tendency to false dramatisation that outstrips the bounds of sensibility, I am inclined to the belief that he will stand firm.

Sport

LIST OF RUGBY FIXTURES, 1933-34

1933.		*Opponents.*	*Ground*
Sept.	9	Trial Game	
,,	16	Catford Bridge	Home
,,	23	Bath	Away
,,	30	Plymouth Albion	Home
Oct.	7	United Services Portsmouth	Away
,,	12	Northampton	Away
,,	14	Old Blues	Home
,,	21	Gloucester	Home
,,	28	Harlequins	Away
Nov.	4	Blackheath	Away
,,	11	Coventry	Away
,,	15	Cambridge University	Away
,,	18	Rosslyn Park	Home
,,	25	Bath	Home
Dec.	2	Richmond	Away
,,	9	Aberavon	Away
,,	16	Coventry	Home
,,	20	United Services Portsmouth	Home
,,	23	Birkenhead Park	Home
,,	30	London Scottish	Home
1934.			
Jan.	6	Old Merchant Taylors	Home
,,	13	Birkenhead Park	Away
,,	20	Old Leysians	Away
,,	27	Gloucester	Away
Feb.	3	London Irish	Home
,,	10	Aberavon	Home
,,	14	Cambridge University	Home
,,	17	Old Millhillians	Away
,,	24	Plymouth Albion	Away
Mar.	3	Rosslyn Park	Away
,,	10	Leicester	Away
,,	31	Old Alleynians	Away

Hospital Information, etc.

Papers by Guy's Men

C. P. Blacker. Choice of contraceptive. *Pract.*, 1933, cxxxi, 256.

Change of Address

E. A. R. Berkley, Applegarth, Leigh, Tonbridge, Kent. *Hildenborough* 5.

Birth

GOUGH.—On September 6th, 1933, at Lisdoonvarna, Cassiobury Drive, Watford, to Aileen (née Stoker), wife of A. Staveley Gough, F.R.C.S.—a daughter.

EDS. { M. J. McA. C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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PASSIM

A RECENT leader in a popular penny paper was devoted to the hardship and injustice of the nurse's lot, which was depicted as the life of a well-trained and enthusiastic ant, ending in an inglorious and penniless old age. This theme, intensely amusing as it was in last year's Residents' Play, is very tiresome reading when stated in such grisly and inaccurate fashion, and must surely fill the nurse herself with justifiable resentment. We read that "nursing is a hang-over from the old convent days when the extra daughters of England's aristocrat families, who knew they had no chance of making a suitable marriage, sought seclusion and took up good works." The uninformed reader is glibly told that after 11 years' training, the academic side of which is so arduous that practical nursing suffers, the finished article is treated by doctors, patients and relations with little respect, is exploited by nursing associations and lives in penury until she finally retires "into her neat little pauper's coffin." Hard words indeed, calculated to frighten anyone from ever employing a nurse, let alone ever becoming one.

Carried away by his underlined eloquence, the writer of this article neglects obvious facts. Nursing is admittedly underpaid, but this applies to women as a whole, and at the present time, when every profession and business is open to them, there is no compulsion to be a nurse; it is chosen for itself alone. This freedom of choice raises the standard of nursing, for it attracts only those who prefer it to all other occupations. It has always appeared to us that nurses enjoyed themselves, and are, therefore, not in need of such heart-rending pity, but we should warmly welcome the opportunity of hearing their own views.

We also read with amusement that after her long training the Sister "is supposed to carry out the instructions of young whipper-snappers who, in 99 cases out of a hundred, have no practical knowledge." May we suggest that the whipper-snappers have themselves spent at least six years learning their job, which is probably six years longer training than is necessary to write such an article?

THE opening of the Winter Session and the Distribution of Prizes which takes place on Tuesday, October 3rd, at 3 p.m. marks the end of the lull in hospital affairs which characterises the summer months, and paves the way for the restless activities of the various Hospital Societies. This year we are very fortunate in having Professor Sir Frederick Gowland Hopkins with us to open the session with an address on "The Burden of Facts." Sir William Hale-White will take the Chair.

On Thursday, October 5th, Dr. Fawcett will open the year's programme for the Physical Society by taking the Chair at the Clinical and Pathological meeting that evening.

Finally, the Dental Society hold their first meeting on Monday, October 2nd, and the Presidential Address will be given.

THOUGH the Residents' table at breakfast-time usually resolves itself into a succession of grunts and querulous remarks, there has been noticeable recently a certain sympathy, and even an anxious regard should someone happen to display an

unusual degree of morning nausea, or show more than ordinary peevishness and irritability. For we know now that, for this once, these whims may be premonitory of disease, and call for a close scrutiny of the conjunctivæ before they can be passed as within normal limits. The fact being that the prevailing epidemic of catarrhal jaundice has invaded the College, and that two of the residents have already sickened. We wish them both a speedy recovery, and hope that compelled inactivity may not make their outlook on life as jaundiced as their skins.

THE Biennial Dinner is one of those functions that one would never like to miss or forget, and those who have enjoyed these evenings so much in the past should make a note that this year it is to be held at the Connaught Rooms, Great Queen Street, on October 20th, at 7 p.m. Mr. Fagge will be President. The older crowd of Guy's men know only too well how successful these dinners are, and really it is only the younger element that we need to reassure. Tickets are 14*s*. each, and may be had from Dr. Geoffrey Marshall.

WE congratulate the following on their appointment as Clinicals from October 16th :—

L. Z. Cosin	L. G. Mackenzie
G. V. Doherty	G. L. B. Thurston
N. M. Jacoby	S. H. Wass

No longer shall we be obliged to leave the breakfast table to wash away the ravages of the spurting grape-fruit; no longer on our first appearance in the wards will the observant Sister be able to diagnose the morning kipper by the absence of facial egg, for a new era of comfort has dawned and residents in the College are now supplied with table-napkins. Such little sundries as these add greatly to our comfort, and are much appreciated.

Ethical Conditions of Scientific Method

The Fison Lecture by Herbert Hensley Henson, D.D., Hon. D.D. (Durham and Glasgow), Hon. LL.D. (S. Andrews), Lord Bishop of Durham, Sometime Fellow of All Souls College, Oxford.

MR. CHAIRMAN and GENTLEMEN,—You will not doubt that I feel considerable embarrassment in standing before you in the character of the Fison Lecturer, for it is apparent that I lack what might well appear the indispensable qualifications. I can lay no claim to either of the great descriptions which might here seem necessarily united, for I am professedly neither a philosopher nor a man of science. Yet the subject to which I invite your attention belongs apparently to the distinctive concerns of both. While, however, this is true, it is also true—and this is the justification for what would otherwise be justly condemned as temerity—that my subject interests keenly the untechnical student, and, in fact, bears so evidently on cardinal human issues as well immediate as prospective, affecting human life in its actual progress and in its future development, as to arrest the attention of every considering person. The subject of my lecture is stated, not very happily, for the words are obviously open to the charge of ambiguity, as "The Ethical Conditions of Scientific Method." The phrase will serve, since the meaning which I give to it will be disclosed sufficiently as I proceed. Here I would propitiate some rather formidable criticisms by pleading that my purpose is rather to raise questions than to advance any specific opinions. That the questions raised are such as really demand the frank consideration both of philosophers and of scientific men appears to me unquestionable.

Two years ago the subject of the Fison Lecture was "Science and Morals," and it was handled with characteristic power and lucidity by Professor Sorley. By his courtesy I have enjoyed the privilege of reading his lecture, and I have allowed myself to borrow from it the following short paragraph to serve as an illustration to our present discussion :—

> "Science is ethically and æsthetically impartial, and the more strictly it preserves this impartiality the greater is its mastery within its own field. It is indifferent to the human preference of one thing to another; it neither approves nor condemns, it only knows."

In so far as this is a description of the scientific mind, it provokes no criticism. We shall all agree that the scientific mind must be utterly disinterested. It must admit no kind of preference or prejudice. Its concern is with truth alone, and it pays no heed to the disturbance of reigning conventions which the discovery of truth may occasion, or with the practical advantages which the possession of truth may secure. The genuine

votary of Science pursues truth for truth's sake. His curiosity is exigent and insatiable. He recognises no degrees of importance. For him knowledge brings its supreme and satisfying recompense. Like Browning's Grammarian, he says :—

" Let me know all ! Prate not of most or least,
Painful or easy ! "

This disinterested passion for Truth did unquestionably bring its possessors into sharp antagonism with ancient and powerful vested interests in the spheres of Religion and Science.

The conflict between Religion and Science, which raged from the close of the Middle Ages to our own time, was, indeed, largely based on the mistaken identification of Religion with traditional theology. It has bequeathed to our time a copious literature, polemical and apologetic, which now lies on the shelves of our libraries unread and forgotten, save by the curious student. Its worst effect has been an unanalysed prejudice which darkens and confuses thought in both camps. Religious men have been disposed to cast back longing eyes on a receding past wherein Faith reigned without challenge, and to give but a grudging and reluctant recognition to the victories of Science. Bishop Blougram gave expression to a mental attitude which is even now far from uncommon among religious men :—

" You'll say, once all believed, man, woman, child,
In that dear middle-age these noodles praise.
How you'd exult if I could put you back
Six hundred years, blot out cosmogony,
Geology, ethnology, what not
(Greek endings, each the little passing-bell
That signifies some faith's about to die),
And set you square with Genesis again. . . ."

In effect, recent developments of Science have tended to transfer the age-long conflict from the field of theology to that of morality. The practical problem, which I am inviting you to consider in this lecture, is concerned with the measure of authority which the man of science can by his own theory concede to ethical considerations. What precisely is meant by ethical impartiality ?

So long as Science concerned itself with observing closely and registering exactly the facts of the physical universe, and so long as its conclusions were rightly drawn from its premisses, it might and did come into conflict with the traditional beliefs of Christendom, but it did not necessarily affect the obligations and sanctions of morality. Theology was slow to learn and reluctant to yield, but in the end it has found no insuperable difficulty in accommodating itself to the teachings of astronomy, geology, even (though this is more difficult) of biology. But when Science proceeds to apply its experimental method to the body and mind of man, it soon passes beyond the sphere of theology to that of ethics, and begins to bear on men's conceptions of themselves and their obligations. The Moral Law itself, which is the grand cementing principle of ordered society, seems to be stricken with instability, and its claims, ceasing to be ultimate and sovereign, sink into a dependence on the conclusions of Science. Human nature is otherwise interpreted, and human duty has but a contingent authority.

Is there an accepted casuistry of the laboratory which can emancipate the scientific student from the ethical restraints which everywhere else he would unreservedly accept ? May the formidable weapon of experiment be used without regard to any other interest than that of knowledge for its own sake ? May not the ethical indifference of Science become a cloak of wickedness ? Readers of " Kenilworth " will remember the casuistic argument by which the villainous alchemist essayed to silence the protest of his more scrupulous accomplice :—

" ' You are to distinguish, my son,' replied the alchemist, ' betwixt that which is necessarily evil in its progress and in its end also, and that which, being evil, is, nevertheless, capable of working forth good. If, by the death of one person, the happy period shall be brought nearer to us, in which all that is good shall be attained—when the art of healing shall be lost and absorbed in the one universal medicine, when sages shall become monarchs of the earth, and death itself retreat before their frown—if this blessed consummation of all things can be hastened by the slight circumstance that a frail earthly body, which must needs partake corruption, shall be consigned to the grave a short space earlier than in the course of Nature, what is such a sacrifice to the advancement of that holy Millennium ? '

" ' Millennium is the reign of the Saints,' said Foster, somewhat doubtfully.

" ' Say it is the reign of the Sages, my son,' replied Alasco, ' or rather the reign of Wisdom itself.' "

In effect, is scientific method morally unconditioned ? And if not, how are the moral conditions to be formulated ?

" Almost all philosophies and developed religions," writes Mr Julian Huxley, " are agreed that truth, beauty and goodness are the three human ultimates to be desired for their own sakes, to be desired above all else. At least, they are agreed in theory ; in practice, difficulties crop up as to interpretation and practical methods."

Nevertheless, Mr Huxley will make no concession to the exigencies of practice :—

" It is often asserted," he says, " that there are certain things too sacred for investigation. But when the zeal for pure knowledge fills a man's mind, he not only may, but he must pursue his quest irrespective of where it leads him, neglecting all other attributes of the things investigated except its capacity for being understood. The fact that he or others hold it sacred is, for the spirit of pure intellect, mere irrelevancy. Further, as matter of experience, it is always found that the knowledge thus gained for its own sake leads to a possibility of deeper reverence than what could be accorded before the facts were properly understood." (V. 1, c. 273.)

Mr. Huxley is concerned rather with religion than with morality, but his language may be extended to the latter. So the question presses. May we assume that the " three human ultimates " which are " to be desired for their own sake, to be desired above all else," are so inherently congruous with one another that he who pursues one shall finally gain the others also ?

" We must not divorce the three values," says the Dean of St Paul's, " or set one against another," and again : " We are all of us climbers up the hill of the Lord which is ascended by these three paths which meet at the top. We shall probably find one of the three easier than the others."

I am not now concerned with the ultimate harmony of values, but with the practical inferences from our faith therein. The Dean's metaphor of the three paths suggests the isolation of the climbers. But it is precisely that isolation which is in question. Granting that the " old quarrel between art and morality " is largely based on a misunderstanding of one or the other or of both, can the artist rightly hold himself indifferent to moral considerations when he sets to work in his studio ? Is " Art for Art's sake " a sound or satisfying proposition ? But we are here concerned with scientific method. Some confusion of the issue arises, perhaps, from our practice of carrying over the langugage of morality into the sphere of science. Thus we speak of the " Martyrs " of Science, suggesting a parallel with the " Martyrs " of Faith. The scientific student who submits himself to dangerous and even fatal experiments in the pursuit of knowledge is, it is suggested, a " martyr " in the same sense as the believer who goes to the stake in testimony to the truth of his religion. But the parallel is misleading. The religious martyr has no choice. He says with Luther : " Hier stehe ich, ich kann nicht anders." He goes to the stake under the coercion of his conscience, because he could only do otherwise by forfeiting his self-respect, and coming under the censure of all true men. But the scientific student is not in such wise coerced to his " martyrdom." He has an option, and whatsoever course he shall decide upon, he remains scientifically honourable. Not even an enthusiast for Science would maintain that it requires its votaries to offer themselves for vivisection. " It is only the moral consciousness which always speaks in the imperative mood," says Dr. Inge.

I submit that scientific method is ethically conditioned in three respects. First, there are the moral obligations which attach to the scientific student by virtue of his manhood, and which cannot be cancelled by any scientific interest. Next there are the restrictions on the methods of research which are imposed by the claims of those whom they affect. Thirdly, there are limitations on scientific research imposed by the quality of the results which they are designed to secure. With respect to the first, we need say little. Scientific research demands the scientific temper. It must be carried on with single-minded loyalty to truth, with high indifference to personal interest, with frank self-surrender to toil and suffering in the quest.

The man of science may not pretend to a larger knowledge than he really possesses, nor impose on the credulous receptivity of the non-scientific multitude, nor bend his scientific authority to unworthy uses. All this is his plain duty because he is a man, and that duty holds him as well in his scientific researches as in his other activities. He must accept for himself the high profession of that very eminent moralist, Mr. Gladstone :—

" I care not to ask if there be dregs or tatters of human life, such as can escape from the description and boundary of morals. I submit that Duty is a power which rises with us in the morning, and goes to rest with us at night. It is coextensive with the action of our intelligence. It is the shadow which cleaves to us go where we will, and which only leaves us when we leave the light of life." (*V.* " The Vatican Decrees," p. 37.)

This subordination of science to ethics was nobly confessed in the ancient world. The famous Oath of Hippocrates depicts the physician's professional activity as governed throughout by moral obligations. " Respected equally," observes Mr. Singer, " throughout the ages by Arab, Jew, and Christian, the oath remains the watchword of the profession of medicine." Nor is its relevance limited to medical science. Every other branch of science would accept the principle which it so nobly expresses.

So far there is no question. We take for granted that Science cannot release its votaries from the ethical conditions which control the rest

of men, apart from which mutual confidence would become impossible, and self-respect would be deprived of intelligible meaning. When, however, we pass from the man of science to his methods of research, we enter the debatable land of casuistry. Science, like Religion, may here claim too much. In many respects it is not superfluous to remember, Science holds in the modern world a position of authority analogous to that held by Religion in the mediæval. Just as, in the Middle Ages, the background of human thought was religious, so now it is scientific. Science has largely replaced Religion in popular interest. If proof of the change were needed, it might be found in the altered direction of private benefactions, and the marked difference in popular taste. The gifts of the benevolent are now mostly given to hospitals and universities, rarely to churches. Sermons are now little read; the books of our leading men of science are eagerly purchased.

In succeeding to the power, will Science succeed also to the temptations of Religion? There is surely no more painful history than that of Christian casuistry, none more humiliating and more perplexing, and at the same time more suggestive. It is filled with paradoxes of almost inconceivable grossness. St. Paul's vigorous repudiation of the casuistic doctrine, "Let us do evil that good may come," has not determined the practice of ecclesiastics or the theories of moralists. The practical question has rather been, "In what circumstances, and within what limits, may we do evil that good may come?" Is there a Jesuitry of Science as well as of Religion? Might a critic of Science find as ample material for a satire in the 20th century as the Jesuits provided for Blaise Pascal in the 17th? That no faith should be kept with heretics, that fictions and forgeries are permissible for the protection and advancement of orthodoxy, that the infliction of torture and even of death are lawful in the interest of the Church—these, and many other casuistic doctrines, have commanded the acceptance of Christian men and justified the worst actions which history records.

Is any analogous development likely in the case of Science? Does Morality condition scientific method? or does the alleged interest of Science over-ride moral considerations? This is the issue which properly underlies the obstinate controversy respecting that scientific method which is popularly, but inaccurately, called "Vivisection." It is noteworthy that those who, like myself, defend the use of that method are at one with its opponents in holding that it must be justified on moral grounds. The Royal Commission on Vivisection reported:—

"After full consideration we are led to the conclusion that experiments upon animals, adequately safeguarded by law faithfully administered, are morally justifiable, and should not be prohibited by legislation."

The moral justification is based on the circumstance that the experiments are "adequately safeguarded by law faithfully administered." It is implied that, apart from such adequate safeguarding, vivisection would be morally unjustifiable. What, then, is the test of adequacy; What is the condition of moral validity which the law must be competent to secure? Is it the interest of knowledge? Is it the degree of the animal's suffering? Can it, then, be maintained that, while it is "morally justifiable" to inflict a little pain in order to gain knowledge, it is not "morally justifiable" to inflict much? The late Lord Cromer would seem to have taken this view. In his "Introduction" to Mr. Stephen Paget's well-known book, "For or Against Experiments on Animals," he declares himself to be completely satisfied that vivisection as carried out in England does not conflict with "the obvious dictates of humanity," and assures "lovers of animals" that they may cheerfully support vivisection:—

"They may," he writes, "profit by the invaluable knowledge acquired in the physiological laboratory without any reluctance due to doubts as to the morality of the methods by which that knowledge has been obtained."

But *pace tanti viri* the infliction of pain appears to me irrelevant to the moral issue, which properly turns on two points, viz., whether the reasons for which the pain is inflicted—much or little makes no essential difference—are adequate, and whether such infliction does, or does not, violate the sufferer's inherent and indefeasible rights.

Mere curiosity would be no adequate motive for inflicting pain. The formula, "Knowledge for its own sake," must be applied with discrimination. It raises the question—What kind of knowledge is to be pursued? Is every kind of knowledge desirable in itself, and rightly to be pursued by moral agents? In the pre-scientific age there were certain areas of knowledge which were held to be prohibited to Christians, because they could only be entered on intrinsically sinful conditions—having recourse to demons or sorcerers or otherwise trafficking with Satan. In our scientific age, when Satan and his sorceries have receded beyond the region of scientific belief, is there any analogous limitation imposed on inquiry by morality itself? "There is a Nemesis which waits upon those who deliberately avoid avenues

of knowledge," says Professor Whitehead; but are all avenues of knowledge open to self-respecting students? Is there not also a Nemesis on those who, in their eager pursuit of knowledge as such, allow themselves to ignore the restraints which Morality imposes on human action?

Inquiry by the method of experiment deliberately arranged by the student himself has added gravity to these questions. Professor Whitehead distinguishes between the cause of science and that of "free imaginative speculation." May not experiment be inspired by the last, rather than by the first? Vivisection in order to satisfy curiosity apart from a genuinely scientific purpose could not possibly be justified by any tolerable casuistry, and the Law, in conditioning the use of this scientific method by severe restrictions designed to rescue it from the service of mere curiosity and to keep it strictly within the ambit of scientific purpose, is entirely reasonable.

But, given the adequacy of the motive, is there nothing more to be said? Has the animal no right to be heard? I think the case for vivisection turns finally on the view taken of animals. And here it might well appear that modern Science has itself armed the opponents of vivisection with a formidable weapon. For may it not be plausibly argued that Darwinian biology has taken away the ring fence by which the scholastic philosophy had segregated man from the other animals, and invested him with the unique attribute of personality? Must we not acknowledge that, when we describe animals as man's poor relations, we are using language which is not merely picturesque, but also essentially true? At least we must admit that the dividing line between the human and the non-human is not altogether easy to draw. Organic life has for us the aspect of a single phenomenon, though infinitely graded and various. Nevertheless, there is a distinction which cannot be ignored. Personality cannot, without misuse of language, be attributed to any animal but *homo sapiens*. Therefore, where man is in question the interest of Science must give place to a still higher consideration. If, indeed, the interest of Science were of itself sufficient to determine the matter, the vivisection of human beings could not be resisted, for it is certain that the fundamental difference between the bodies of men and the bodies of animals largely reduces the practical value of experiments on the latter.

It is the violation inflicted on personality that finally prohibits the vivisection of men. Here we must draw the line between the human and the non-human. Even the higher apes and those domestic animals which have companied longest and closest with man can at most be credited with the rudiments of a moral sense, the undeveloped potencies of personality. May we, then argue boldly that, since rights attach to persons, and since animals are not persons, animals can have no rights? May we ground our requirement that animals shall be treated humanely, not on their rights, but on man's duty to himself? I think that we may not deny that the moral conditioning of the scientific method is here indirect, through the human student's self-respect; not direct, through the animal's inherent rights.

I observe that in his recently published "Apologia" Dr. Orchard seeks to reconcile the stern scholastic view that animals have no rights with his own sensitive humaneness thus :—

"This doctrine," he writes, "is not as harsh as it sounds: rights can properly belong to God or to man; nevertheless God retains rights over the animal creation that man must not overstep; and man certainly has duties to animals." (*V.* "From Faith to Faith," p. 285.)

This reasoning, perhaps, might suffice if vivisection for scientific purposes stood alone, but in fact it does not. Suffering is inflicted on animals for many other reasons than the interests of science. We require a theory which shall cover the entire relations of man with his non-human contemporaries. The castration of domestic animals, the severities of their breaking-in to human service, the hard conditions of that service, their suffering and death in the interest of man's amusement, and so forth, not less, perhaps even more plainly than vivisection, challenge the casuist's skill. In his recently published "Autobiography" Dr. Albert Schweitzer explains the philosophy by which he was able to reconcile himself to the sacrifice of animal life :—

"To the man who is truly ethical," he writes, "all life is sacred, including that which, from the human point of view, seems lower in the scale. He makes distinctions only as each case comes before him, and under the pressure of necessity, as, for example, when it falls to him to decide which of two lives he must sacrifice in order to preserve the other. But all through this series of decisions he is conscious of acting on subjective grounds and arbitrarily, and knows that he bears the responsibility for the life which is sacrificed." (*V.* "Autobiography," p. 271.)

We may think, perhaps, that in these words the great scholar, scientist and servant of mankind rather confesses the insolubility of the practical problem than offers a solution.

Ought we to conclude that in no case may men be subjected to vivisection in the interest of science? I have already alluded to those scientific students who of their own free choice have sub-

jected themselves thereto, and are for that reason universally held in honour as the martyrs of science. In their case the moral issue does not arise, but only in the case of those who have no option—the child, the slave, the imbecile, the criminal. Is there any moral objection to the vivisection of criminals who, by the laws of their country, have been condemned to death? In their case the issue of inherent human rights cannot be raised, for these have already been cancelled. To imprison, flog, and hang or electrocute a criminal must be allowed to imply a violation of his human rights not less gross than to subject him to vivisection. We say, very justly, that by his crimes he has forfeited his rights, and we deal with him penally on that hypothesis. Why should not his punishment take a form which is serviceable to the community? Why should he not at least be given the opportunity of making in this way some atonement for his sins against society? In the case of the criminal whose natural rights have been cancelled, much may be legitimate which in the case of innocent persons like the slave and the child would be altogether inadmissible. How far could a doctor be justified in sacrificing life in order to effect a cure? Here is an illustration from the 15th century :—

"It is said," writes Bishop Creighton, "that a Jew doctor offered to cure the Pope (Innocent VIII) by transfusion of blood. Three boys of ten years old were chosen for this purpose, and were paid a ducat each; they died in the experiment, and the Pope obtained no benefit." (*V.* "History of the Papacy," iii, 153.)

Even if the experiment had been successful, would it have been morally legitimate? Transfusion of blood is now, I am informed, a familiar and not particularly dangerous medical method, but in the 15th century it was both novel and fatal. Was the Jew doctor morally entitled to use it? Ought he not to have been tried for wilful murder?

The goodness and importance of the object aimed at cannot, I submit, suffice to authorise the use of experiments which involve violations of morality. Among the many legends which have gathered about the fascinating personality of the mediæval emperor Frederick II there is one which illustrates both his fondness for scientific experiment and his indifference to the ethical considerations by which such experiment ought to be conditioned. Dr. Coulton, in his interesting volume, "From St. Francis to Dante," quotes the following from the contemporary chronicler Salimbene :—

"He (*sc.* the Emperor) fed two men most excellently at dinner, one of whom he sent forthwith to sleep and the other to hunt; and that same evening he caused them to be disembowelled in his presence, wishing to know which had digested the better; and it was judged by the physicians in favour of him who had slept." (*V.* "From St. Francis to Dante," p. 243.)

Frederick's curiosity was legitimate, and his desire to satisfy it by the scientific method of experiment was entirely praiseworthy, but the actual experiment was insufficiently conditioned by ethical considerations.

A few years ago considerable public attention was directed to the experiments of Dr. Serge Voronoff. These are plainly described in his published volume, "Rejuvenation by Grafting," so plainly that even the non-technical reader can easily understand their nature, object, and the measure of success which is claimed for them. Voronoff's experiments are extremely repulsive, but they are so plainly germane to our present discussion that I cannot omit a reference to them. I need not describe them because I may fairly assume that most of my audience are sufficiently familiar with them. I ask whether "rejuvenation by grafting" is a legitimate scientific method. It seems to me to involve a cynical contempt for human nature, and to open the door to further experiments which are utterly repugnant to morality. But is the method, from the scientific point of view, legitimate? And, if it must be answered, that it is not, then the question presses for answer—Why not? What concern has Science with Morality? Does not the acquisition of knowledge justify any and every experiment?

If the adoption of morally objectionable methods is prohibited even when these are adopted for ends which are unquestionably good, what shall be said for the use of morally legitimate methods in pursuit of knowledge which would certainly or probably be practically mischievous? How far are the students of Science morally entitled to ignore the quality of the results which would surely follow from their discoveries?

Recently I was interested by reading in *The Eugenics Review* some editorial comments on the alleged discovery of a scientific method for determining the sex of children. After expressing some scepticism as to the fact, the Editor proceeded :—

"We must be prepared, nevertheless, for the announcement any day of reliable methods of forecasting or even of controlling sex. . . . This highly probable eventuality would prove, without exaggeration, the greatest revolution in the history of mankind, and we can only speculate whether the proportion of boys to girls will be 10 or 20

to 1. What the effect will be on our social and sexual life is beyond the most unflinching imagination. Certainly the ideals of monogamy and female chastity will be among the very first to be threatened.

" Is there any chance of a modern government looking a few years ahead and providing even a memorandum in preparation for the upheaval? A more hopeful, if still slender, prospect is that the biologists of the world may agree in advance —*now*—to keep this knowledge, more dangerous than any new explosive, to themselves, instead of broadcasting it, like Dr. Sanders, to the popular press. It would leak out eventually, of course, but there might, perhaps, be time to erect a few barriers against the monstrous regiment of men." (V. *The Eugenics Review*, October, 1932, p.1.)

Assuming, for the sake of argument, that the situation has actually arisen, that scientific men are on the road to acquiring this formidable knowledge, and that the consequences, if it were communicated to the public and generally acted upon, would be what the editor indicates as probable, what is the duty of the biologist? Ought he to abandon his hopeful researches and, in the interest of sexual morality, refuse the knowledge which they promise? Does it suffice that he should ignore the consequences of his discovery on the broad ground that, as a man of science, his concern is solely with knowledge as such, and that, therefore, his scientific activity is properly exempt from the principle which confessedly governs every other, viz., that a man is responsible for the certain or probable consequences of his acts.

The ethical conditions of scientific method have been forced on our attention by our recent experience of war scientifically waged. Take the case of poison gas, the use of which is, perhaps, the most hideous and horrifying feature of modern warfare. Is it enough for the chemist to plead that his concern is solely with adding to the sum of human knowledge? May he rightly contend that he is not concerned with the effect of his discoveries on the happiness or misery of mankind; that to the votary of science moral considerations are irrelevant, since, in Professor Sorley's words, " Science is ethically and æsthetically impartial "?

If Locusta was rightly held to be infamous when she concocted poisons to destroy individuals who had fallen under the ban of an emperor's hatred, can the modern chemist be held guiltless when he sets himself to discover poison-gases to destroy armies and cities in the interest of national policy? Even if we may assume that the sordid motive of personal gain which inspired the one will have no influence on the other, does the difference suffice to authenticate a procedure which is intrinsically immoral? Must it not rather be insisted upon that the obligations of manhood take precedence of the franchise of science; that no man can divest himself of his humanity when he enters his laboratory, and that, in short, Science forfeits its principal claim to human regard when it ceases to be beneficent. Westermarck's observations on curiosity are, perhaps, relevant to this point :—

" When highly developed, it (*sc.* curiosity or love of knowledge) drives men to scientific investigations, even though no practical benefits are expected from the results. This devotion to truth for its own sake, pure and disinterested as it is, has a singular tendency to excite regard and admiration in everyone who has come under its influence. From the utilitarian point of view it has been defended on the ground that, on the whole, every truth is in the long run useful and every error harmful, and that we can never exactly tell in advance what benefits may accrue even from a knowledge which is apparently fruitless. But it seems that our love of truth is somewhat apt to mislead our moral judgment. When duly reflecting on the matter we cannot help making a moral distinction between him who pursues his studies merely from an instinctive craving for knowledge and him who devotes his life to the search of truth from a conviction that he may thereby promote human welfare." (*V.* " Origin and Development of Moral Ideas, ii, 135.)

Recent developments of science have so apparent and powerful an influence on man and society as to compel reflection even in the most resolutely optimistic minds. It has been too confidently assumed that the increase of knowledge will benefit humanity, that the control of Nature will serve the interest of society. A new note of anxiety is audible in the utterance of the masters of science. Even the Man in the Street is perturbed when he hears successive Presidents of the British Association—General Smuts and Sir Alfred Ewing—emphasising the perils into which the rapid progress of science is bringing civilised society. Like a mediæval magician the man of science seems to be raising demons which he has no power to control. Sir Alfred Ewing spoke of applied mechanics in a tone of sadness and apprehension:—

" An old exponent of applied mechanics may be forgiven if he expresses something of the disillusion with which, now standing aside, he watches the sweeping pageant of discovery and invention in which he used to take unbounded delight. It is impossible not to ask, Whither does this tremendous process lead? What, after

all, is its goal? What its probable influence upon the future of the human race? . . . Beyond question many of these gifts are benefits to man, making life fuller, wider, healthier, richer in comforts and interests and in such happiness as material things can promote. But we are acutely aware that the engineer's gifts have been and may be grievously abused. In some there is potential tragedy as well as present burden. Man was ethically unprepared for so great a bounty. In the slow evolution of morals he is still unfit for the tremendous responsibility it entails. The command of Nature has been put into his hands before he knows how to command himself." (*V.* Presidential Address to the British Association at York, August 31st, 1932.)

Mechanical science, which Sir Alfred Ewing had primarily in view, affects the conditions under which civilised society exists, and thereby brings a heavy, even it may be an intolerable, strain on human character, but biology and its ancillary sciences aspire to explain, manipulate, and transform human nature itself. The citadel of personality is visibly endangered. The fountains of moral and intellectual freedom are dried up, and there is opening before humanity the promise of a bleak and stereotyped future from which all that has hitherto created the grace and glory of human achievement will have been withdrawn. Thoughtful observers of scientific progress find in what they see more that creates fear than nourishes hope for the destiny of mankind.

In a powerful but extremely repulsive novel Mr. Aldous Huxley has pictured the complete victory of Science, and bidden us realise what consequences would follow from the frank application of science to human life apart altogether from ethical considerations. In the " Brave New World " which he describes with brutal realism, personality has been subtly annihilated, and with it religion, morality, romance, idealism have perished. No doubt the novelist's picture is grotesque in its extravagance, but the grotesqueness is that of a successful caricature, which must needs owe its success to the measure of its fidelity to fact. It distorts features which are real and recognisable, and which the very distortion emphasises and interprets.

Science divorced from ethics carries the potency of measureless calamity for mankind. My purpose in this lecture is, not merely to give expression to that melancholy foreboding, but also to raise the question how, and where, and when the indispensable conditioning of scientific method by morality ought to be effected. On the right answering of that question I apprehend that there depends no less an interest than that of humanity itself.

Our Continental Causerie

By Perpessus

THE train pulls up at the French frontier. A serried row of gorgeously uniformed, semi-military officials, lined up on the platform, breaks into a brisk trot and boards the coaches. Customs, that curse of Continental travel, which adds at least an hour to the time of any trans-frontier journey, at least one grey hair to the head of the enterprising traveller, and quite the currency equivalent of half-a-crown from the loss of sundry small objects, such as razor-blades and tooth-brushes, which slip unobserved under the seat or into the heating machinery. I am half-way through an amusing article in the *Journal*, when a pleasant-faced, mildly pot-bellied official comes into the compartment and indicates, with a polite grunt and a descriptive wave of the hand, that he would like to have a look at the luggage.

The usual nightmare experience is lived once again. Bags burst open and exude contents over seats. The usual menacing questions are put, the usual lying answers received. Deft fingers reduce one's neat packing to a crumpled, tangled ruin, whilst the sweat pours into one's shirt and one's intestine twists into knots. The tormentor at last takes his leave, but not before he notices my *Journal*, and courteously asks permission to examine it. He looks at it, wags his head gravely, pronounces the word " Verboten " in a tone of suppressed emotion and, with the sanctimonious air of one performing a religious rite, tears it accurately into four pieces, which he throws under the seat.

With a stiff bow he goes out, and in a few minutes off we go again. The Frenchman opposite then relieves his feelings by blowing his nose, lighting a cigarette, and producing a bottle of cognac from some recess in his clothing, together with a couple of glasses. He offers me one, filled, which I greedily accept. Then, from another unsuspected niche, he draws forth and smilingly hands to me a later edition of the annihilated *Journal*. *Toujours la politesse*!

After many hours of exasperatingly slow progress, we reach Frankfurt-am-Main, and, passing out through the wet aisles of the Bahrehof, I reach a previously recommended hotel.

* * *

Lovers of good fare, disciples of Lucullus, should not visit Germany. The average middle-aged German believes in quantity of food, not quality, and the young German believes in neither. He never eats, but he may drink quite a lot.

The feeding habits of German ladies are also strangely monotonous. The "Conditoreien"—tea-shops—supply them with cakes of every shape and hue, which presumably satisfy their sense of form and colour; the sense of taste they could never satisfy, as they taste of nothing at all.

The visitor to France or one of the Latin countries expects to be faced with an alternative when his glance first lights on the menu. Either he may excite his gastric mucosa with a potage, or else, if the call to food is particularly insistent, he may choose small amounts from a bewildering array of *hors d'œuvres*, which collectively would fill the intricate stomach of a herbivore.

In Germany you will always be faced with two equally disappointing alternatives. Either you may have a *Kraftbrühe mit Einlagen*, which is a weak, highly-coloured beef-tea, containing amorphous masses floating, like icebergs, largely submerged; these prove, should you be rash enough to taste one, to be lumps of mutton or chicken-fat, which flow sickeningly over the tongue. Or you may elect to have a *Suppe*, which is served in a whole gamut of hues and densities, ranging from Mobiloil AA to Pratt's Extra Heavy; but the taste will never vary from that of a weak, hot, salt solution.

Frankfurt is a happy hunting ground of the Common Cold, my German friends told me, and perhaps the canny restaurateur economises by counting on at least 80 per cent. of his custom attributing the insipidity of his soups to chronic catarrh.

After this first disappointment you may have an agreeable surprise if you are lucky or knowing enough to choose a veal cutlet instead of English steak, and spinach instead of peas. Finally, after your strawberries or your cherries or your peach—according to season and in profusion, for fruit is beloved of the German palate—you may decide to finish with a black coffee.

Alas, there will be set before you half a pint of hot water, coloured deep yellow by the juices of one ground-up coffee-bean. Too late will you have discovered that good coffee is only to be had in the homes of the German *Bourgeoisie*.

Your alcoholic refreshment may console you for your other deceptions, however. Whether your choice falls on quantity and beer, or quality and wine, you should be amply satisfied for less than a Mark; but should you decide to advance further along the "veiled and vaporous path," the manager will consider it his bounden duty to see you safely to your bed.

After the weariness of the journey and the potency of the beer have lulled you into animal content, you may decide on a bath. That is a real joy in Germany, a *Hochgenuss*, especially if you had your last one in France.

The room will be large, so that you will not be suffocated by the vapours of your ablutions, and you will be able to indulge in cultural exercises or the caperings of *joie de vivre* to your heart's content. The plumbing and fittings will be Rolls-Royce in quality and size, and the water will rush with incredible speed into a lordly bath, in which, if the White Man's Burden is past all bearing, you may open your veins in the greatest comfort.

If you manage to avoid dosing off in your bath (in Germany a not uncommon habit, which has led to the custom of "calling" the occupant after half an hour or so, as soon as sounds of splashing and singing have died away), you will then, feeling that German life has its compensations, be plunged into acute melancholia when you investigate the mysteries of your sleeping chamber.

After removing the coverlet, a vast eiderdown covering the whole bed and two feet thick will meet your astonished gaze. Further probing will reveal a complete absence of blankets and one or two sheets. If it is winter, you will thank German thoroughness and slip blissfully beneath the yielding mass. If it is summer, you will pitch the thing on to the floor and creep beneath the sheets. But if you get there about Easter-time, as was my unhappy fate, you find yourself in a fearful quandary. Either you must sweat beneath the Charybdean eiderdown or freeze beneath the Scyllan sheets; you are the victim of some satanic German's application of the All-or-None Law. Never again may I spend such a night of alternating torments. At three in the morning, after I had woken up shivering in the middle of my Third Ice Age, some merciful spirit, perhaps the deceased victim of similar tortures, suggested to me that my coat might supply that intermediate covering, and so preserve the last remnants of my sanity. It did, and I slept till far on in the morning—so far on, indeed, that the management decided to send me up my breakfast and thus, by a contemptible trick, added another Mark to my bill.

* * *

Next morning (no, the next morning but one), I sought out the building where I was expected to do some work. It was built by a beneficent Frankfurter for Ehrlich and his aniline dye experts, and Wassermann's shade still stalks down the long corridors.

In fact, the place has become an Ehrlich-Wassermann shrine. One day, during my first week there, one of the men asked if I had seen the "Ehrlich Room." No, I had not seen the Ehrlich Room. So, like a candidate for some holy rite, I was conducted to a heavy mahogany door, which the initiator then opened with a silver key. Inside lay a small room, dimly lit by two coloured glass windows, in which panels represented in allegorical wise the discovery of Salvarsan and its miraculous effects on afflicted flesh. Here was a bearded figure, stooping over the conventional gear of a mediæval alchemist; there he was again, holding up the bare arm of an unhappy creature with a drooping stance and orange cavernous cheeks. Last in the row came the grand finale, where the same gentleman was seen shaking the hand of the afflicted one, whose face had now filled out and assumed a pleasant pink tinge. The many intermediate stages, whose allegory was of more difficult interpretation, I have quite forgotten.

The walls and ceiling of the room are covered with highly polished panelling, mahogany, teak and walnut, and the floor is a mosaic of red and black marble. In the centre of the room stands a small table, with a favourite chair of Ehrlich pushed up against it. On the table lie books belonging to Ehrlich and one or two biographies, and, by the side of these, culminating mark of religious veneration, a death-mask of the Scientific Saint.

Rather overpowered, I staggered forth and drowned the uncomfortable feeling of puny insignificance in a pint of Henninger Dunkel—in which refreshment I induced my initiator to share.

* * *

An account of the working of the Georg Speyer Haus would be tedious. Roughly, the system of government is a hierarchy. A very important Professor—a full-blooded *Geheimrat*—sits at the top of the pyramid and a number of rather less important professors hold their sway over the departmental sub-systems.

When I explained to the Great Man that I was interested in Serum, he pushed a button amongst many on his enormous desk, and the Professor of Serology presently appeared. A conversation between the two *savants* then took place, as a result of which I made my first entry into the *Serologische Abteilung*.

Here, day in and day out, all the year through, the serological secrets of the erring sons and daughters of one-half of Germany are cheerfully probed by half a dozen young ladies, who arrive at nine in the morning and, after much pipetting and incubating and a final delivery of verdicts, rangeing from — to ++++, depart with eager punctuality as the clock strikes three.

One incident during the first week of my stay in this hospitable institution throws interesting light on divergence of customs in civilised lands.

About eleven o'clock one morning I began to experience a pressing need. Hopefully, I moved in the direction of a helpful sign and reached the obvious door. To my horror I could find no latch, only a square peg, which clearly needed a special key to turn it. Things were urgent by now, so, waxing bold in my emergency, I hurried along an interminable corridor, till I found the Porter's Lodge.

With signs and an expression of obvious distress I managed to convey to this cynical personage my dire predicament. "Oh," said he, "the key, of course, will you by Herr Hoch find." Herr Hoch proved to be a genial soul, who in physique, age and position closely resembles a certain gentleman known to all frequenters of the Guy's Bacteriological Laboratory. He produced the desperately needed instrument with a chuckle, and ever after I had a feeling of embarrassing dependence on Herr Hoch—so much so, that I took my holidays in the same month as he did, and was almost ill myself when he went into hospital to have his septum straightened out. A more fiendishly ingenious method of maintaining laboratory discipline it would be hard to devise; one feels it ought to be suggested to Mussolini as the obvious corollary to Castor Oil.

Another discovery which rather shocked my insular propriety was to notice that the two laboratory assistants, Adolph and Fritz, turned up three times a week arrayed in a most military garb, and no one could say them nay. They must, of course, carry out the duties of loyal members of the N.S.D.A.P., the *Fuehrer* must be served, even if it means carrying heavy Winchesters about on a torrid July day in riding boots and breeches.

Excellent lads, both of them, though they would invariably break off their collecting of dirty glassware to start an argument about France's predatory instincts, the racial characteristics of the Chosen People, or the effectiveness of modern aircraft in dealing with cities like London and Paris. Such interruptions were not conducive to work, but they stirred the sluggish English brain to its finest

efforts in an unfamiliar tongue; far better than all the *Sprach-austauche* in the *Palmgarten*, which usually degenerated into a monosyllabic *tete-a-tete* in a café over beer-mugs and ice-cream, according to taste and sex.

A word or two about the *Palmgarten*. Its name does not imply that the vegetation consists mainly of palms—there are one or two in a greenhouse—any more than the Crystal Palace is noted for its crystal. It is just a park with beautifully kept lawns and flower-beds, a rock- and a rose-garden, and a few hot-houses for delicate and tropical plants, much cherished by the German subconsciously grieving over his lost colonies. It is kept up by the community out of rates and an entrance fee of 50 Pfennige. Of course, it possesses a bandstand, in which of an afternoon the municipal orchestra, in strains of Bach and Mozart, rouses the promenading babies to sudden spasms of howling, whilst on the seats the bulging bourgeois and his ample spouse help absorption by slipping into coma.

The uninformed visitor, as he passes many a worried-looking, gesticulating couple, may think he has come upon the summer premises of the Berlitz School.

"Que le temps est beau aujourd'hui, n'est-ce pas?" asks a young lady, in a mechanical, unconvinced tone.

"Ja, ja," replies Siegfried, with the duel-scarred cheeks, looking lustfully towards beer-mugs in a café. "Mais je viens d'entendre un coup de—*Donner. Gehen wir rein.*"

Inside the café, which is surrounded by a herbaceous border with *Heil Hitler* and *Deutschland ueber Alles* cunningly grown in red and blue on a green ground, politics are discussed on every side and in nearly every tongue. So far I have managed to edge away from the temptations of Hitlerismus, but now the urge to unbosom is becoming irresistible. Luckily the Editor already has enough copy for this week, so I shall be spared the further infliction of mental discomfort—at any rate, for a fortnight.

Life in the Hop-Fields

THIS year 50,000 town dwellers voluntarily shut up their houses and left the crowded warmth of the streets that they love so much to rough it in the open air, where there is little shelter, no gas stoves, no picture palaces, and where they walk at night in dark lanes instead of taking a bus. Year by year "hopping" provides the only holiday for those who need one most, of whom the Borough patients at Guy's are an excellent example. From casual references made by them on their visits to the Hospital we get a hint of what an adventure "hopping" is, and we have all seen the family processions starting off down Great Maze Pond with their belongings piled on perambulators strangely reminiscent of the Gold Rush. One has, however, to be with them in the hop-fields to see how cheerfully they adapt themselves to adverse conditions and how much they enjoy themselves. Many of them, if not born during "hopping," were first thought of there, and one old man of 78 who had been every year since infancy announced his intention, if possible, of dying there. Little wonder that they differentiate the passing years by the various hop-pickings and look upon it as a feast as essential in the yearly routine as Christmas or Bank Holiday. Such is the cult of the hop and the power of beer.

The hop-picking unit is the family, and includes everyone from the infant on the breast up to great-grandmama, with the usual exception of the husband. Until the recent years of unemployment few men were seen picking, though what happens to them at home is mysterious, for in most cases the house is shut up. Probably they are looked after at home by the unmarried daughters who go out to work. The family "books up" in January, usually with the same farmer every year, and with their own neighbours from home. Two days before picking starts they receive from the farmer a postcard telling them which train to catch from London. This is usually at an extremely early hour, as they have to pay by inconvenience for their cheap hop-tickets. The farmer meets them at the country station and takes them by lorry to the huts, where they settle in and start picking on the next morning. Many families now prefer to join in hiring a lorry to take them and their belongings from farm to hut. Although this is more convenient it has its drawbacks, as the lorries may break down under the excessive strain or get stopped by the police for not having a passenger licence. This year, 26 souls, mostly children, were stranded at Marden at 1.30 a.m., and were put up for that night in the Hop-Pickers' Hospital, sleeping on improvised beds and on the floor.

The farmer provides huts, water, latrines and firewood. There is no doubt that in past years the conditions provided were bad, and anything was thought good enough for the pickers. There is also no doubt that, with a few exceptions, conditions are improving. The farmer, notoriously

conservative, does not welcome changes that necessitate putting his hand in his pocket. He is obstinate in the face of tactless interference, and as all the local politics are in his hands he can be thoroughly obstructive to any progress. The few I met were, however, very considerate to their pickers. All the farms are provided with main water pipes with taps, and with latrines, and, although this was a drought year, there was no shortage in the hop-fields. The farmer provides wood for cooking and so gives the pickers no excuse for trespassing, pulling down hedges and mutilation of trees for firewood. The huts provided are permanent structures, usually built of corrugated iron and wood, but occasionally of brick, and are partitioned into rooms about three

Hop-pickers outside their huts

yards square, one for each family. Half of this space is taken up by a wooden platform raised a foot or two from the ground and covered with straw or hop-bines, and on this communal bed the family, up to the number of ten, sleep side by side, rather like the lost boys in "Peter Pan."

The state of these huts varies considerably, dependent on the humanity of the farmer and the standards of the occupants. Thus some have wallpaper, the hideous design of which can be better imagined than explained, concrete floors, and even windows, while others are just four walls enclosing bare earth with no ventilation save the many cracks. While most are situated in the open fields, some I saw were grouped round the farmyard manure heap. Some families are clean and have all the bare necessities of life, but others live in the most bestial conditions. The standard varies from farm to farm rather than from hut to hut, so that it is probable that the farmer who provides the best accommodation not only encourages his pickers to live happily, but attracts a better class family. There are one or two "model" farms where the provision for hop-pickers is excellent, and among these is Whitbreads', who, unlike most brewers, grow their own hops.

Picking continues usually from eight or nine in the morning until seven in the evening, with breaks for snack meals eaten among the hops, where cooking is, naturally, forbidden. Each family has a bin, made of sacking on struts, into which all, including the children, pick, being careful that no leaves get in with the hops. They stand, or the aged sit, round the bins, and the hops are dragged down with long poles from the framework of twine on which they are trained to grow by men known as pole-pickers. This is quite strenuous, and when attempted by women was a not infrequent cause of abortions. The pickers slowly work across the thick green of the hop garden like an army of locusts, leaving nothing behind them but the bare poles and framework.

In the evening the farmer's man measures the day's pick, without too much shaking down if generous-minded, for the amounts are booked to the family in bushels rather than in weight. They are not paid in full till the end of the period of picking, but draw out a proportion of the money due to them once a week. As the picker enters into a contract with the farmer, only half money is paid if they leave before the end, unless they can produce a doctor's certificate. Thus one woman, although starting labour, was obliged by the farmer to walk two miles to the hospital to have her word confirmed before she could draw out the money owing to her to get herself and family back to London.

In the past it was possible to make money, but nowadays, owing mainly to the variety of hop grown being slower to pick, most families only cover their expenses. It is thus the chance of a holiday alone that attracts them, and many allow

Marden

their children a free hand to enjoy themselves and do not keep them all day at the bins.

The farmers do not alter their rates of pay according to the state of the crop, and in a good year, although they themselves stand to make more, they do not pass on a share of the generosity of Nature to the pickers. This year good prices were expected and work was hard in the heat, so that on many farms the pickers wisely struck work for a better deal, which they successfully obtained.

After the measuring, the hops are taken in small sacks or pokes to the oast house, whose simple yet beautiful forms are so characteristic of the rich Kent weald. The oast house is a brick structure with a simple coal or anthracite fire at the ground level, a platform of matted horsehair on which the fresh hops are laid, and the familiar dome surmounted by a ventilator, self-regulating to face away from the wind. The hops are dried partly by the heat and partly by the products of combustion which pass through them from the fire below. This is a very important part of the process, for too rapid drying or too high a temperature would spoil the crop; about ten hours between 100° and 140° F. are the usual conditions.

The dried hops are left in the air for a few hours in the adjoining barn, and are then compressed into the large sacks or pockets that we see being stored opposite Guy's. The hops are extremely light and, although they are in a solid mass which can be cut with a knife, these large pockets weight only between 1 and 1½ cwt.

In the evening the pickers return to the huts, where they cook the main meal of the day and, although shelters are provided, in good weather they prefer to use open fires. When night falls these make a cheerful and romantic sight, with all the children sitting round eating and, later, singing. They also provide excitement, as burns and scalds are frequent, especially in the morning, when the little ones are liable to play with or sit down on the grey ashes, rudely experiencing the fire still burning beneath. One small child playfully emptied a shovelfull of hot embers down his brother's back, with disastrous result.

The food they buy is, on the whole, good, and easily obtained, as local tradesmen open temporary shops or call round with a van; travelling fish-and-chip shops at night and "Stop-me-and-buy-one's" at day do a good trade. The pubs do wonderful business, not only inside but outside, on benches and on the side of the roads for as much as 100 yards away are crowds cheerfully drinking out of enamel mugs and singing about the stormy weather.

A Family at the Bin

It is, however, at the week-ends that the real holiday spirit is seen. Friends and relations arrive by rail and road in thousands, and the country lanes begin to look like Brighton Front with the gaudy creations, mauve suits and patent-leather shoes. The speed and recklessness of the driving is appalling, and I was not surprised to have five fractures to deal with on one Sunday.

Crowds collect outside the pubs a good hour before opening, and the noise of revelry by night is heard long after closing-time. How the extra members squeeze into the already crowded huts is a mystery which I hoped to solve by a night call, but, unfortunately, no opportunity arose.

Their best clothes, however, looked sadly creased on returning to town.

Local feeling, on the whole, is antagonistic to the hop-pickers, although they must leave a lot of money in the district. Precautions such as extra police and wire guards on the shop counters

Oast houses

are reminders of the days when no resident would venture out of doors at night alone, for the pickers, after being shut out of the pubs, would give point to their arguments with knives outside. On the whole the pickers, except for a habit of indiscriminate picking so well practised outside the College here, are very well behaved, and any drunkenness was of the friendly type.

To look after the health of the thousands living, as they do, in adverse conditions, one would expect a medical service organised by the local authorities or farmers. No such organisation has ever existed, and the medical facilities offered to the hop-pickers are entirely provided by outside generosity. These improve yearly, and the only excuse for tragedies such as happened in the past would be gross negligence on the part of the pickers themselves.

Various religious organisations provide voluntary workers who, although not medically qualified, are able to deal with minor ailments and see that the major ones are placed in suitable hands. The Red Cross, who are extremely efficient, have a number of dressing stations dotted over the hop-picking district and command the services of a whole-time doctor. The only hospital which caters entirely for pickers is at Marden, in the centre of an extremely busy hop-growing district, and it was here that I spent three weeks as M.O. and saw much of interest, both medically and socially.

This hospital was built by the generosity of Mr. and Mrs. J. A. Spender, who have done more than anyone to improve the lot of hop-pickers during the last ten years. This is supported mostly by brewers from all over the country, though a few local folk and one or two farmers subscribe. It is a wooden structure with a ward of eight beds and four cots, an isolation room, out-patient halls, nurses' quarters and kitchen accommodation. It is staffed by a Matron and trained nurses and takes and deals with cases from a radius of eight miles, and has outlying first-aid huts, though they are gradually being taken over by the Red Cross. Cases are fetched, visits made

Sunday, noon

and a round of the huts made twice daily by the M.O. in the hospital ambulance, an old L.C.C. motor fully equipped except, unfortunately, for the bell.

Visits to the huts, especially at night, are even more exciting than on an extern's bicycle, and the objective more difficult to find. When at last the correct encampment is reached, everyone turns out to form an escort across the field to the hut, and crowds round the door while the harassed doctor, by crawling over the hop-bines with his torch attempts to locate the apex beat without overlaying any of the many sleeping children.

During the three weeks 773 patients were treated at the hospital and the huts; 28 were admitted and 22 transferred to other hospitals, including eight to Guy's. The cases varied from the removal of 12 maggots from a girl's ear to the request for "a bottle of medicine for me brother-in-law who wakes up in the morning with a nasty taste in his mouth all disagreeable-like."

Peculiar to hop-picking was an eczema on the exposed surfaces, conjunctivitis due to rubbing the eyes with hop-soiled fingers, and a condition of synovitis and overlying cellulitis aptly called hop-gout. D. and V. was naturally the popular ailment of the children, though everything was put down by the mothers to the "air being too strong"; probably they were overpowered by the unaccustomed feeling of being surrounded by it.

One thing I noticed. It is useless doctors advising mothers to take their children "hopping" as a convalescence for illness, for only the healthy child is able to stand up to the unaccustomed life, but those not absolutely fit cannot possibly receive the attention during the day or the rest at night which they need. Illness in the hop-fields should be avoided at all costs, as it upsets for the whole family the holiday they so richly deserve. C.G.B.

Correspondence

"Cavilling"

To the Editor of the GAZETTE

SIR,—Having enjoyed Mr. Layton's friendship for more than 30 years, I should be frightened that there was something seriously amiss if I were ever to read an article by him without finding something that stirred me to argument; so when I read his paper on "Similes" in the peaceful atmosphere of a Cornish cove I was not greatly perturbed by his comments on Sir Frederick Taylor's teaching and willingly left it to others to deal with them. In "Cavilling," however, there is more that I cannot endure in silence.

When we accuse people of quibbling, it is often because we are only giving superficial consideration to a problem into which the "quibbler" is probing more deeply. Will Mr. Layton accuse me of quibbling or of cavilling if I ask him what he means in his discourse on the proper sphere of seniors and juniors in the teaching of medicine by the terms "elementary part" and "advanced stuff"? Can we rightly describe as elementary that which on Mr. Layton's admission it has taken a lifetime to acquire? By "advanced stuff" I suppose he means the additions to our knowledge that are being made from day to day by scientific observation; and for these additions I agree that, as things are at present, we must look largely to the younger men, but that is because we demand from our seniors the larger duty of harmonising these new observations with the wider and more general experience that they alone possess. I cannot see that age alone has anything to do with the question. In testing this point I naturally look at once to Guy's men. Anyone of Dr. Hurst's mental intrepidity must provide a target for criticism, but I have never heard it suggested that he has become impervious to new ideas, and he has never yet given me the impression of "running after Youth." When we toast our Chairman at the Biennial Dinner next month I doubt whether many of us will be secretly thinking that he would have been better employed during the last 15 years if he had restricted himself to explaining the virtue of an H.B.F., and, going further afield, neither Sir Gowland Hopkins nor Dr. Price-Jones in their different spheres strike me as having any difficulty in grasping new ideas, although both of them, I suppose, are about a quarter of a century past the age at which Mr. Layton tells us that this becomes only possible "in part."

Again I hope I am not cavilling if I question Mr. Layton's accuracy in saying that Dr. Taylor was not first choice for second three months' medical clerking. He would have been more correct if he had said that Dr. Taylor was not the first choice of that group of shining lights of which he was so eminent a member; for Dr. Taylor had his modest following, and that we, too, were not without our "stars" is proved by the fact that we had Mr. Davies-Colley amongst our number. Success in teaching demands some degree of reciprocity between teacher and student, and it is one of the great advantages of a large school like Guy's that there is a wide choice and no one need work with a man with whom he is

not in sympathy. There were, indeed, many who were deaf to Dr. Taylor, and they did wisely to make their choice elsewhere. There is no denying that Dr. Taylor spent much time in getting accuracy of description from his clerks; thereby he sought to teach us accuracy in observation and a habit of thought by which we might learn that greatest of all lessons—how to teach ourselves; but he also drew freely from his peculiarly wide knowledge of the work of others, and adding thereto the fruit of his own rich experience he taught us the art of medicine at its best. His teaching on the use of digitalis is an interesting sidelight on what seems to me to be the over-emphasis some of us lay to-day on "advanced stuff."

I have often asked physicians of recent years in what way patients with heart disease are better off now than they were in the hands of the wise men of an earlier generation, and the reply has always been that contained in a statement of Dr. Ryle's not very long ago that we owe to modern cardiology our knowledge of the use of digitalis. I do not think I exaggerate if I say that Sir Frederick Taylor knew when and how to give digitalis as well as anyone living to-day, and no one would have appreciated more keenly than he the new ideas of modern cardiology which have given us in part at least a rational explanation of its action.

In spite of the devastating evidence of the gentleman who wandered into Mr. Layton's theatre from the Colonies I am sure that many for whom Dr. Taylor *was* first choice will out of their own experience share my feeling that, of the innumerable debts I owe to Guy's, my three months with "Freddie Taylor" are to be counted amongst the greatest.

Yours, etc.,
GORDON W. GOODHART.

40, West Cromwell Road,
S.W.5.

Words and Phrases

To the Editor of the GAZETTE

SIR,—The articles which Mr. T. B. Layton has written on "Words and Phrases" should be read with the greatest attention, not only by students but also by qualified men.

The suppression of loose and vague phraseology in descriptions and records of cases is very necessary. Statements concerning symptoms and physical signs should always be precise and unequivocal.

Those of us whose duty it has been to try to sift the facts from old records of cases, about which information has been sought or concerning which controversy, or possibly litigation, has arisen, know the difficulties in which we have sometimes found ourselves in an endeavour to produce an accurate and intelligible account of the condition which the original record was intended to describe.

I am glad that Mr. Layton has withdrawn the suggestion that Sir Frederick Taylor "cavilled," for the word, in its present-day usage, implies a degree of unkindness—a quality which could never be associated with Sir Frederick. I do not like to read that he "quibbled"—an expression which conveys to me the suggestion of pettiness and unnecessary criticism. Sir Frederick fought unceasingly against slovenly thought and looseness of expression, and in doing this earned the lasting gratitude of those who were able to train themselves to some extent to follow his brilliant example of clear thinking and precise expression.

Mr. Layton is doing valuable work in continuing the campaign.

Yours, etc.,
R. W. B. HALL.

"Appletrees,"
Derby Road, Haslemere.

To the Editor of the GAZETTE

SIR,—Mr. Layton draws attention in the *Gazette* to the liking for the word "commence" in the notices and advertisements emanating from the Medical School Office.

This criticism recalls to my mind that "commence" appeared in the early issues of Guy's Dental Prospectus, 1890 and onwards, but I doubt whether Mr. Croucher had anything to do with its use.

At any rate, Sir Cooper Perry objected to the word, being from the Low Latin and opposed to "complete." Consequently, "begin" was substituted for it. However, the forbidden verb has cropped up again in the current Dental Prospectus, but no doubt it will be altered in the future, and the heart of Mr. Layton gladdened.

I may mention here that the word "marked," often referred to as hackneyed by medical men, is still a great favourite.

In reference to smell being characteristic of certain diseases a former vice-reine of India told me that she could detect a case of plague, by smell alone, as soon as she entered a stricken house.

Another instance occurs to me. Many years ago, during a severe epidemic of smallpox, when patients were being sent to the ships off Darenth, the Medical Officer related the following incident. He recognised by smell a case of smallpox in a woman selling flowers outside Earl's Court station.

The poor woman acknowledged to him feeling very unwell, but obliged to carry on her work on account of great poverty.

Yours, etc.,

W. A. MAGGS.

Cobham, Surrey.

Let us Practise what we Preach

To the Editor of the GAZETTE

SIR,—While admiring the ascetic honesty of "Prophylaxis," I feel that he has got hold of the wrong end of the doughnut. Among the benefits of Civilisation may be numbered "the rollicking bun, the gay Sally Lunn, and the strawberry jam"—not forgetting the Guy's Hospital Shop. If these produce holes in our teeth, the dentist is the product of civilisation whose job it is to fill them. By all means let him warn us of the dangers of "fermentative debris" if it makes his conscience easier, but he must not expect us to return to an atavistic diet of roots

Yours, etc.,

B. ACIDOPHILUS

Guy's Hospital,
S.E.1.

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The Dental Society

THE Annual General Meeting of the Dental Society was held on Friday, May 26th, 1933. The following officers were elected for the session 1933-34 :—

President.—A. Bulleid, Esq., M.R.C.S., L.R.C.P., L.D.S.

Vice-Presidents.—Messrs. R. Cutler, M.R.C.S., L.R.C.P., L.D.S.; F. N. Doubleday, M.R.C.S., L.R.C.P., L.D.S.; K. Hooper, L.D.S.; K. S. Keele, M.R.C.S., L.R.C.P., L.D.S.; H. L. Messenger, M.C., M.R.C.S., L.R.C.P., L.D.S.; R. E. Rix, M.R.C.S., L.R.C.P., L.D.S.; F. S. Warner, M.R.C.S., L.R.C.P., L.D.S.

Hon. Secretary.—K. L. Scott.

Hon. Treasurer.—H. Bradley-Watson.

Dental Correspondent.—K. E. J. Fletcher.

Committee.—

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3rd Year Representative ..... A. G. Richmond
2nd Year Representative ..... D. W. Harvey
1st Year Representative ..... G. C. Wright

During the session 1932-33 the following papers were read :—

1. "The Need of Research," The Presidential Address, by F. S. Warner, Esq., M.R.C.S., L.R.C.P., L.D.S.
2. "Local Anæsthetics in Relation to Minor Oral Surgery," by Dr. J. J. Posner.
3. "Infection of the Antrum from Dental Causes," by R. A. Johnson, Esq.
4. "Dental Jurisprudence," by T. Helmer, Esq.
5. "Osteomyelitis of the Mandible," by W. C. Scoble, Esq.
6. "The L.D.S., R.C.S. (Eng.)," by H. M. Ching, Esq.
7. "The Dental Operating Room," by F. S. Copley, Esq.
8. "Death after Extraction," by M. A. Rushton, Esq., M.B., B.Ch., L.D.S.
9. "Dental After-Pain," by J. A. C. Hindle, Esq.
10. "The Masticatory Face," by B. G. F. Turner, Esq.

11. "Some Physico-Chemical Aspects of Local Anæsthetics," by E. Matthews, Esq., Ph.D., B.Sc., L.D.S.

12. "Practice Organisation," by F. N. Doubleday, Esq., M.R.C.S., L.R.C.P., L.D.S.

13. "Some Notes on Dental Radiographic Technique," by Miss Dorothy Marsh.

14. "The History and Development of Dentistry," by D. Robertson-Ritchie, Esq.

In addition, there were the following Casual Communications :—

1. "A Case of Residual Infection," by K. E. Lawrence, Esq.

2. "The Ætiology of a Family History of Pyorrhœa," by J. G. Spiller, Esq.

3. "A Case of Uneruption," by C. I. Hagger, Esq.

4. "Two Cases of Gemination," by R. A. Johnson, Esq.

The 34th Annual Dinner was held at the Trocadero Restaurant on Saturday, February 25th, 1933. There were 361 members and guests present.

The first meeting of the Dental Society will be held on Monday, October 2nd, when the Presidential Address will be given, followed by a Casual Communication. All new members are cordially invited.

Anybody who has material which he thinks would be of interest to the Dental Society, please communicate with the Hon. Secretary, K. L. Scott.

K. E. J. F.

Sport

Rugby

Guy's v. Catford Bridge

ON Saturday, September 16th, Guy's opened their season by entertaining their neighbours Catford Bridge, and were successful by a placed goal, a penalty goal and 2 tries (14 points) to 2 placed goals (10 points).

Considering the sub-tropical conditions which prevailed, it was one of the best opening matches of the season seen for some time. Both sides went all out from start to finish, and it was not until after the interval, when Guy's re-organised their back division that they gained a decided superiority.

With I. K. Thomas away, Guy's took the opportunity to introduce I. McD. Stewart, the late Captain of Berkhampstead at fly-half; this was the only change in the back division which represented the Hospital in the Cup Final earlier in the year. Several changes had to be made in the pack, as O'Shea, their hooker, and Walt have now left the Hospital, and Morgan, last season's captain, and Darke were unable to play.

The forwards, although dominating the line-out, were not very successful in the set scrums. They will have to play together much better if they are to overcome some of the Provincial packs. However, the opening game is very little to judge upon, especially when one remembers the magnificent games the forwards played last year when the majority were pessimistic as to their possibilities. There is no doubt that they have the material, and will improve as the season progresses.

Guy's started confidently, and during the early part of the game attacked continuously, but were met by a dour defence. Much to everybody's surprise the visitors took the lead when Boty, their clever scrum half, made a great individual effort from the halfway line, wormed his way to within a few yards of the goal-line, before sending in Nicholls for a try, which Hutchinson (the old Guy's forward) converted.

Guy's gradually worked their way down the field and, following a rush by the forwards, Robin just managed to touch down near the corner-flag.

Whilst defending near their 25, Guy's succeeded in securing the ball from a line-out, and Van der Merwe sent out a long pass to Kark, who made a lot of ground before punting ahead. In the race for the touch-down A. R. Clarke beat the opposition and scored another try for Guy's, and Hogbin, from a difficult angle, added the extra goal-points.

After the interval Catford again took the lead when they caught the Hospital defence napping, and Ferguson, following his kick ahead, touched down for Hutchinson to kick another goal. Following this reverse, Giesen re-organised his backs, and immediately the game was transformed.

The three-quarters, ably fed by their captain, attacked persistently, and eventually over-anxiety on the part of the visitors' forwards placed them offside, and Hogbin gave the Hospital the lead by kicking a good penalty goal.

Near the end the backs combined in a splendid movement which enabled Johnson to cross for an unconverted try.

Team.—W. B. Clegg; C. G. Wright, P. C. Alexander, J. E. Giesen, A. G. Johnson; V. H. Bowles, I. McD. G. Stewart; M. R. Kark, A. G. Heberlein, C. J. Van der Merwe, I. G. Robin, R. J. Drummond, R. A. P. Hogbin, A. R. Clarke, T. A. Hale-Munro.

Guy's v. Bath

AT Bath on Saturday, September 23rd, Guy's accomplished a splendid performance when they defeated the home side by 2 placed goals (10 points) to a placed goal and a try (8 points).

It was the Hospital's first visit to Bath, and they have every reason to be proud of their achievement considering that their opponents had accounted for Swansea and the United Services (Portsmouth) in their earlier games. This success of Guy's was thoroughly deserved, and with a little luck would have won by a greater margin.

It was unfortunate that rain fell so heavily throughout the game, but this did not prevent the Guy's backs from handling the ball with remarkable accuracy and precision. Giesen, the Hospital Captain, set a fine example and, playing one of the best games of his career, was easily the best back in the field. A word of praise must also be given to the forwards who, strengthened by the return of C. S. Darke, performed magnificently, until towards the end, when they appeared to tire. However, in the earlier stages they more than held their own against a powerful pack.

Guy's were the first to score as the result of a brilliant cut through the centre by Giesen, who completely beat the defence before sending Wright over for a try which Hogbin converted.

Another burst through by Giesen led to another try for the Hospital as Alexander carried on so well, that he ran right up to the full-back before passing to Lindsey, who raced over in the corner, Hogbin completing a magnificent movement by kicking a very fine goal from near the touch-line.

After the interval Bath improved considerably and kept up terrific pressure to retain their unbeaten record. Some splendid rushes were carried out by their forwards, and eventually Moon crossed for a try, which Banks converted, and a little later, following a smart bout of passing between Davies and Hancock, the latter went over for an unconverted try.

Guy's made several determined efforts to break through, but the defence of the home side was very sound and no further scoring took place.

If the team can only maintain the form shown in this game there is no doubt they will have a good season. With a little more practice and coaching the pack should develop into a formidable combination, whilst the backs have little to fear provided they reproduce the understanding, thrustfulness and sure handling which they exhibited on this occasion.

Team.—W. J. R. C. Morgan; A. G. Johnson, C. G. Wright, P. C. Alexander, M. J. Lindsey; J. E. Giesen (Capt.), V. H. Bowles; R. A. P. Hogbin, R. J. Drummond, T. A. Hale Munro, A. R. Clarke, C. S. Darke, A. G. Heberlein, M. R. Kark, I. G. Robin.

Sailing Club

THE season has seen more interest displayed in sailing than at any time since the foundation of the Club in 1925. There are now 31 members, who, if not all expert helmsmen, derive great pleasure from the opportunities afforded by the Club.

The Inter-Hospital Points Races, the Wilson Cup, and the Team Race for the Sherren Cup were all won by Bart.'s, who have set a fine example of skill and regular attendance. The Guy's boat has, nevertheless, provided us with some very good sport. Next year, if members can be presuaded to race the dinghy more regularly, we are assured of better success, helped by a new mainsail, which will replace the present rather aged one under whose folds many a helmsman must have sought to cover the shame of his defeat.

The best race of the year was, as always, that for the Ogilvie Cup, which was held on August 27th, a bright sunny day with a light easterly breeze. Three most exciting heats were sailed round a triangular course. There were eight starters and lots were drawn for the boats. So close were the races that F. J. Curtis, W. T. Fowler and W. G. Gill ended the day with an equal number of points, and decided to share the Cup in commemoration of a delightful and friendly day's sailing.

Some members have sailed wider seas, visiting the Dutch and South coasts, and several have crewed in the races to Heligoland and in the Thames Estuary. We are particularly indebted to Mr. C. F. Mason and Dr. Brydone for these opportunities.

We have been given a fine lead by our Commodore, who is to be congratulated on his successes with the 12 square metre sharpie class.

The winter programme will include lectures and the annual dinner.

R. A. ANDREWS,
Hon. Sec., G.H.S.C.

Hospital Information, etc.

POST-GRADUATE COURSE DURING WEEK OF BIENNIAL DINNER

It is proposed to hold a series of Post-Graduate Demonstrations and Clinics for old Guy's men on Friday, October 20th, and Saturday, October 21st. A detailed programme will be issued shortly.

All old Guy's men who are able to attend are cordially invited to do so. No fee will be charged.

GUY'S HOSPITAL MEDICAL SCHOOL. TIME TABLE. WINTER TERM, 1933.

SUBJECTS FOR FINAL EXAMINATION. MEDICAL.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Applied Anatomy	Professor Johnston	Wednesdays at 12 noon	Demonst'n Theatre	Wednesday, October 11
Forensic Medicine	Dr. Ryffel	Fridays at 4.30 p.m.	Class Room 3	Friday, October 6
General Pathology	Dr. Simpson	Lectures—Tues., Thurs. and Fridays at 12 noon Practical—Daily at 9 a.m.	Pathol'cal Theatre Path'cal Class Room	Tuesday, October 17 Monday, October 16
Medical Pathology	Dr. Campbell	Tues. and Weds. at 9.30 a.m.	Museum	Wednesday October 4
Surgical Pathology	Mr. Davies-Colley	Tues. and Thurs. at 5 p.m.	Museum	Thursday, October 5
Operative Surgery	Mr. Doherty	Mon. and Thurs. 12 noon	Op. Surg Class Rm.	Thursday, November 9
Ophthalmology	Mr. Morgan	Thursdays at 4 p.m.	Anatomical Theatre	Thursday, October 12
Radiology	Dr. Lindsay Locke	Tuesdays at 4 p.m.	Anatomical Theatre	Tuesday, October 17

ORGANIC CHEMISTRY, ANATOMY, PHYSIOLOGY, AND PHARMACOLOGY.

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B., Part I)	Lectures—Mons. 1.45, Weds. 11.30 a.m. Pract.–Mons. 2.45–5. Thurs. 10-1 p.m.	Chemistry Theatre Chemistry Laboratory	Lectures—Mon., October 9 Practical—Thur., October 5
Anatomy	Elementary Lectures— For First Fortnight—Mon. 9.30 a.m., Wed. 10.30 a.m., Thurs. 2.0 p.m., Fri. 9.30 a.m. Thereafter—Wed. 10.30 a.m., Fri. 9.30 a.m. Senior Lectures (Neurology)— Tues. and Thurs. at 9.30 a.m. Revision Classes— To be announced later Demonstrations— To be announced later Practical Anatomy— Daily from 9.30 a.m. to 5 p.m. Primary F.R.C.S.— To be announced later Normal Histology Tues. at 2 p.m.	 Anatomical Theatre Anatomical Theatre Demonstration Theatre Demonstration Theatre Dissecting Room Demonstration Theatre Histology Laboratory	 Wednesday, October 4 Thursday, October 5 To be announced later To be announced later Tue., October 3 at 10 a.m. Tue., October 3 at 2 p.m. Tuesday, October 10
Physiology	Elementary Lectures— Tues. and Thurs. 9.30 a.m. Senior Lectures— Mon. 9.30 a.m., Wed. 10.30 a.m., Thurs. 2 p.m. Elemen. Exper. Physiology (Jun. Stu.)— a. For Students attending Histology Tues. 10.30 a.m. to 12.30 p.m. b. For Students *not* attending Histology Tues. 2–4 p.m. † Adv. Chemical Physiology (Sen. Stu.)— A Group, Mon. and Fri. 10.30–12.30. B Group, Mon. and Fri. 2–4 p.m. † Human Physiology (Sen. M.B. Stu. only)— B Group, Mon. 10.30 a.m. A Group, Mon. 2.0 p.m. Clinical Physiology (All Students in Final Six Months of Study)— Thur. 12 noon to 1 p.m.	Physiological Theatre Physiological Theatre Experimental Physiology Labortory Chemical Physiology Laboratory Physiological Theatre Clinical Theatre	Thursday, October 19 Wednesday, October 4 Tuesday, October 3 Friday, October 6 Monday, October 9 Thursday, October 12
Pharmacology	Mons. 4 p.m. Fri. 1.15 p.m.	Physiological Theatre	Friday, October 6

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Conjoint	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tues., Oct. 10, at 9.30 a.m.	Chemistry Theatre	Fri. 10–1 p.m. Thurs. 2–5 p.m. First Class, Thurs., Oct. 5, at 2 p.m.	Chemistry Laboratory
	*Elementary Organic Chemistry	Thurs. 2–3 p.m. & Fri. 12–1 p.m. First Lecture, Thurs., Oct. 12, at 2 p.m.	Chemistry Theatre		
	Physics	Tues. & Thurs. 10.50 a.m. and Tues. at 12 noon. First Lecture, Thurs., Oct. 5, at 10.50 a.m.	Class Room IV	Mons. 10–1 p.m. and 2–5 p.m. First Class, Mon., Oct. 9	Physics Laboratory
Conjoint	Biology	Weds. 9.30 a.m., Thurs. 12 noon, Sat. at 9.30 a.m. First Lecture Thurs., Oct. 5, at 12 noon.	Physiological Theatre	Tues. 2–4 p.m. & Fri. 2–4 p.m. First Class, Fri., Oct. 6, at 2 p.m.	Biology Laboratory
M.B. London	Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tues., Oct. 10, at 9.30 a.m.	Chemistry Theatre	Mons. 10–1 p.m., Tues. 2–5 p.m. First Class, Tues., Oct. 3, at 2 p.m.	Chemistry Laboratory
	Physics	Tues. & Thurs. 10.50 a.m., and Tues. at 12 noon. First Lecture, Thurs., Oct. 5, at 10.50 a.m.	Class Room IV	Thurs. and Fridays 2–5 p.m. First Class, Thurs. Oct. 5, at 2 p.m.	Physics Laboratory
	Biology	Weds. 9.30 a.m., Thurs. 12 noon, Sat., 9.30 a.m. First Lecture, Thurs., Oct. 5, at 12 noon.	Physiological Theatre	Weds. & Fridays 10.30–1 p.m. & Sats. 11–1 p.m. First Class, Fri., Oct. 6, at 10.30 a.m.	Biology Laboratory

* Only for those Students taking the Pre-Medical Examination in December, 1933.

† Students will be arranged into their respective Groups at the First Senior Lecture to be given on Wednesday, October 4.

GUY'S HOSPITAL DENTAL SCHOOL

TIME TABLE—WINTER TERM, 1933

Subject	Lectures	Place	Practical	Place
INORGANIC CHEMISTRY	Tuesdays and Thursdays at 9.30 a.m., commencing on Tuesday, October 10th	Chemistry Theatre	Thursdays 2 to 5 p.m., and Fridays 10 a.m. to 1 p.m., commencing on Thursday, October 5th at 2 p.m.	Chemistry Laboratory
†ELEMENTARY ORGANIC CHEMISTRY	Thursdays at 2 p.m. and Fridays at 12 noon, commencing on Thursday, Oct. 12th.	Chemistry Theatre		
PHYSICS	Tuesdays and Thursdays at 10.50 a.m.,and Tuesdays at 12 noon, commencing on Thursday, October 5th	Class Room IV	Mondays 10 a.m. to 1 p.m., and 2 to 5 p.m., commencing on Monday, October 9th	Physics Laboratory
BIOLOGY	Wednesdays 9.30 a.m., Thursdays at 12 noon, and Saturdays at 9.30 a.m., commencing on Thursday, October 5th.	Physiological Theatre	Tuesdays 2 to 4 p.m., and Fridays 2 to 4 p.m., commencing on Friday, October 6th	Biology Laboratory
DENTAL METALLURGY ..	Mondays and Wednesdays at 10.15 a.m., commencing on Monday, October 9th.	Chemistry Theatre	Thursdays at 2 p.m., commencing on October 5th	Metallurgical Laboratory
DENTAL PROSTHETICS	Mondays at 4.0 p.m., commencing on Monday, October 9th at 4 p.m.	Anatomical Theatre	Fridays at 1.45 p.m., commencing on October 6th	1st and 2nd Years' Laboratory
ANATOMY	(1) *Junior Lectures*— For first fortnight— Mondays 9.30 a.m., Wednesdays 10.30 a.m., Thursdays 2 p.m., Fridays, 9.30 a.m. Thereafter — Wednesdays 10.30 a.m., Fridays 9.30 a.m., commencing on Wednesday, October 4th. (2) *Demonstrations*— *(*a*) Bones— To be arranged later. *(*b*) Soft Parts— To be arranged later.	Anatomical Theatre Anatomy Demonstration Theatre Anatomy Demonstration Theatre	Daily from 9.30 a.m. to 5 p.m.,commencing on Tuesday, October 3rd Dental Students who have completed one term's work in the Department must enter their names for "parts" in the Dissecting Room.	Dissecting Room
PHYSIOLOGY	Tuesdays and Thursdays 9.30 a.m., commencing on Thursday, October 19th.	Physiological Theatre	Thursdays 10.30 a.m. to 12.30 p.m., commencing on October 5th	Experimental Physiology Laboratory
HISTOLOGY	Thursdays at 2 p.m., commencing on October 5th	Histology Laboratory		
PATHOLOGY	Wednesdays 11 a.m. commencing on October 11th.	Pathological Theatre	Tuesdays at 3 p.m. commencing on October 17th	Pathological Class Room
DENTAL ANATOMY ..	Tuesdays at 9.15 a.m., commencing on October 3rd.	Pathological Theatre		
NORMAL DENTAL HISTOLOGY ..	Mondays at 2 p.m., commencing on October 2nd.	Pathological Theatre	Mondays at 2.30 p.m., commencing on October 2nd	Pathological Class Room
DENTAL PATHO-HISTOLOGY ..	Mondays at 2 p.m, commencing November 13th.	Pathological Theatre	Mondays at 2.30 p.m.,commencing November 13th.	Pathological Class Room
GENERAL SURGERY	Mondays at 12.15 p.m. Tuesdays at 1.15 p.m. Fridays at 1.15 p.m. Commencing Monday, October 9th	Class Room IV Class Room IV Clinical Theatre		
DENTAL SURGERY ..	Tuesdays at 4.15 p.m., commencing October 10th	Physiological Theatre		

* N.B. —Students in their Second Term of Human Anatomy must attend (*a*), and may attend (*b*) if they so desire.
Students in their Third Term of Human Anatomy must attend *both* (*a*) and (*b*).

† Only for Students taking the Pre-Medical Examination in December, 1933.

EDS. { M. J. McA. C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

TO all the newcomers to Guy's this month we offer a hearty welcome, and to them dedicate this number of the *Gazette*. We hope that from it they may get some glimpse of the life at Guy's, will know what is to be expected of them in their future work, and how, through the varied activities of the Clubs' Union, they may be helped to brighten and organise their hours of leisure. And yet the Students' Number of the *Gazette* is meant to be more than a mere prospectus; in a kindly and friendly way our distinguished contributors offer some words of advice to those who, at the outset of their career, may be befogged by difficulties and uncertainties, and need guidance as to the necessary qualities and attitude of mind that go to form the good doctor. They must know already that Medicine calls for a whole-hearted interest, enthusiasm and unselfish energy, and that, though it offers on the whole a safe living, it cannot give happiness and content to those who look upon it merely as a source of income, have little interest in it as an art and a science, and are not prepared to submerge their own inclinations and desires in its service. In addition it demands many another attribute, and we hope that everyone will read the following articles with care and, imbibing their principles, cling to them for the rest of their medical career.

Fortunate are those who come to Guy's with a long family medical tradition. They must feel that, as soon as they enter the Colonnade, they have come to a place they already know in part, and that they can soon pick up that spirit about which they have heard so much. But even those to whom Guy's looks utterly strange and at first sight forbidding in its complexities will find that, after a few weeks, they, too, will be absorbed in its atmosphere, and will have made their friends in their own set and in those societies of the Clubs' Union they care to join. Provided they are entering Medicine with the right intentions and frame of mind, they can be assured that the years they shall spend at hospital will be as interesting and as full of variety and pleasure as any they could hope for.

While we have mentioned the need for whole-hearted effort in their profession, we would be greatly disappointed in the newcomers were they to neglect their opportunities for keeping up their outside interests. Therein lies the danger of a profession where the work is so varied, absorbing, and at times even exciting. At the same time insularity and the lack of a broad outlook is one of the most frequent criticisms levelled by the laity against us, and deprive the doctor of taking his proper place in public affairs. For that reason we would direct their attention to the Debating Society, which had a very successful season last year and promises equally well for this. Here there is the opportunity to discuss matters of public interest and comment, both serious and amusing, and the secretary has arranged that on one or two evenings in the session a few distinguished visitors shall be invited down to join in the discussions. Last Thursday, for example, we were fortunate to hear two members of the British Union of Fascists maintain their ground against the opposition of Dr. Blacker and Dr. Ryle. At these meetings the newcomer, fresh from a school or University debating society, is at an advantage, and is even an asset to those whose activities have been mainly in one direction for some years. It is said that the present generation is not prepared to discuss and argue with the same force as its predecessors, but we hope that the Debating Society will help to live this down and maintain the tradition that it set 20 years ago.

A glance through this *Gazette* will give an idea of how Guy's can cater for every taste and even eccentricity, and that everyone can find here something that will appeal, something to think about, or something to do. Finally, there is a small notice which brings to the light the needs

of the *Gazette* for original contributions. If you fail on the Rugger field or your boat capsizes at Burnham, perhaps, after all, you may make amends by a bold and dashing pen.

THE change in the succession of ward appointments to be inaugurated next month will probably be approved by all. After the second three months in the medical wards shades of the prison house in Queen's Square begin to close upon the growing student and prevent him from enjoying and getting the best value from his future appointments. Few, whatever their university, avoid the autocracy of the Conjoint Board and to attain the final curt bow of approval necessitates an " expense of spirit in a waste of shame." To pander to the examination mind is wrong, and to alter the Hospital routine on that count alone would be simply encouraging it and shameful, but the new order of appointments is both simple and logical, and by helping the student to take the various fences of his Final in his stride should give him more time to learn to be a doctor.

The alterations are roughly these. After the second medical appointment, instead of Free Period the next six months will be spent in Queen and Victoria, as Extern and in the Children's Ward. Instead of confusing the issue as at present by reading for the Pathology examination during this time, the student will be able to amplify his practical work by the necessary reading and take "Midder," the most hide-bound and closely defined part of the Final, at the end of it. This takes him to Free Period, which gives enough time to correlate his now more extensive Clinical experience with the study of Morbid Histology and " Specimens " necessary for Pathology, which is attempted next.

The appointment of Senior Dresser, one of the most valuable we are told, is then held nine months later than is now usual. While the extra knowledge now accumulated, especially of Gynæcology, will be invaluable for duty in the Front Surgery, the take-in weeks and the number of routine ward dressings make these three months exacting, and will leave little leisure for reading Surgery or revising Anatomy. We feel, however, that many of the straightforward and less complicated dressings could be done either by ward clerks, junior dressers, or nurses, who always seem keen to do them as part of their scheduled training. This disadvantage, however, should be more than balanced by the advantage of sitting for the Surgery exam. shortly after a general surgical appointment. The final fence is Medicine, which will be taken as now after the Special appointments.

There is bound to be a little amount of confusion and congestion before the new *regime* is satisfactorily working. Thus, we hear that in the next three months there is to be a tremendous invasion of dressers into the sacred mysteries of Queen and Victoria. Still, when all the theatre gowns are used there are always night-shirts to wear, and perhaps even the toast rack in Queen Theatre may at last, like the patient on the table, bulge with a human burden.

THE William Gray Memorial Fund is soon to be closed, so that we ask any of our readers who wish to subscribe and have not yet done so to send now before it is too late. The total amount collected and the method of its final disposal will be announced shortly.

THE general approval and admiration for Mr. Ogilvie's new surgical sewing machine make us wonder whether soon yet another use may not be found for the ubiquitous " Zip fastener." For certain patients who enjoy bad health it would quickly become a necessity, while in Obstetrics it would be invaluable.

The Art

Being the Report of an Address to the Medical Faculty of Cos at the opening of a New Session (*circa* 420 B.C.)

(*From a hitherto undeciphered manuscript by an unknown author.*)

WHEN the Master rose to speak in the shade of the Plane Tree the whole concourse greeted him with a great stamping of feet, a method of showing approbation peculiar to students of medicine from the earliest times. On this occasion our enthusiasm was even warmer than usual, for our love and veneration of Hippocrates grew with the years, and we knew that he intended to embody much of his wise teaching and advice in an exhortation to us to good work in the session which lay spread before us.

Under the broad heading of " the Art," he told us, he proposed to touch in turn upon medical education, medical science, medical practice and healing, and medical conduct or ethics, and in the case of each to set up a standard or ideal to serve as a beacon for us in dark or difficult days.

Would that it were possible to transcribe something more than these shreds and fragments of his discourse and to convey the full sense of its continuity and rhythm and of its wise inspiration which his hearers must needs carry in their hearts

for ever. Lest memory be held to be at fault in recording the pronouncements of Hippocrates on this memorable day, references are given to various confirmatory passages in the Hippocratic Collection where they may be read by all. Among the many scrolls and papyri which come to cumber the shelves of the studious surely a place will always be found for these famous works, now available in four books of pocket size,* a very suitable gift from a father to his son destined for the physician's life.

Speaking of education Hippocrates was insistent upon the need for a sense of vocation in the student and upon the choice of a good school. " He who is going truly to acquire an understanding of medicine must enjoy natural ability, teaching, a suitable place, instruction from childhood, diligence and time."[1] The scientific spirit must be inculcated, for " there are in fact two things, science and opinion ; the former begets knowledge, the latter ignorance."[1] In no profession, perhaps, are men so readily swayed by or so vain of opinion, but in no profession, it must be agreed, is it more important to preserve high standards of scientific truth. Touching upon the importance of a liberal sharing of knowledge and instruction and of maintaining the proper dignity of the faculty he reminded us how each of us must hold it incumbent upon himself to " impart precept, oral instruction, and all other instruction to my own sons, the sons of my teacher, and to indentured pupils, who have taken the physician's oath, but to nobody else."[2] And again he spoke of the value of consultation in all difficult cases.

On the matter of the medical sciences he discoursed at some length, and, although the method of experiment was by no means alien to his thought, he especially requested us to school ourselves in the art of observation and the study of the natural history of disease, for by such means were skill and intellect best and most truly trained and the interests of our patients best served. He decried the crude idea of viewing diseases as either dæmonic or divine phenomena, for they all have " a natural cause,"[3] and they are all to be studied as we would study any of the other events of Nature. If we fall into the lay habit of considering them as evils or as sacred phenomena—epilepsy, for instance, had been called " the sacred disease "—our judgment was like to be hampered and no longer free to weigh and consider facts and the meaning of the manifestations presented by those afflicted with one sickness or another.

He showed that disease should not be considered apart from health, and that the symptoms of one find their parallel in the symptoms of the other. " When respiration is symptomatic, by uphill roads and by running it compels Nature to reveal symptoms."[4] And again, ". . . hunger is a disease, as everything is called a disease which makes a man suffer."[5] As we would study the cure of hunger so should we study the things which cure other disorders. In many ways he advised us of the method of training in observation and of the importance of case-histories of which he has shown himself so able a master in his account of the epidemic maladies. That nothing was too little to observe in the symptoms of our patients he proved to us in various fashion and with apt illustrations from his great experience.

In the matter of treatment and practice he laid down many important principles. In therapeutics he advised us first of all to remember that Nature herself is the great healer, or, as he phrased it, " Nature is the physician of diseases."[6] He enjoined us to make it our determination in treatment " to do good, or at least to do no harm "[7] —a very necessary counsel, for in all ages, and both in medicine and surgery, as much harm has probably been done to the repute of the art through too meddlesome interference or too much treatment as through the lack of it. Some have held that Hippocrates was too conservative and too prone to leave things to Nature, but we all knew him prompt to act in an emergency and thoughtful and industrious in the relief of pains and discomfort, insistent on regimen and discipline, and skilled in the repair of fractures and injuries. Some, on the other hand, accused him of being on occasion even over-active and too free with his use of the trephine, for it seemed to them rash to operate so near to the brain, and cranial surgery, as compared with other arts, was held in some suspicion and they made no allowance for the niceness of his descriptions and his craft.

Speaking of the method of display used by some practitioners, he urged us to " do none at all of these things in a way that savours of fuss or show."[8] In the sick-room we were to perform our tasks " calmly and adroitly, concealing most things from the patient while you are attending him. Give necessary orders," he says, " with cheerfulness and serenity, turning his attention away from what is being done to him ; sometimes reprove sharply and emphatically, and sometimes comfort with solicitude and attention, revealing nothing of the patient's future or present condition. For many patients through this cause have taken a turn for the worse. . . ."[8]

*The Loeb Classics—Ed., G.H.G.

He gave us outlines for the study of regimen both in health and disease and considered the importance of studying both the constitutions of our patients and the influences of environment, for without a knowledge of these treatment in the individual case cannot be of the best.

He paid especial attention to some points of conduct in practice. "I urge you," he said, "not to be too unkind, but to consider carefully your patient's superabundance or means. Sometimes give your services for nothing, calling to mind a previous benefaction or present satisfaction. And if there be an opportunity of serving one who is a stranger in financial straits, give full assistance to all such. For where there is love of man, there is also love of the art."[9] Again, "a physician does not violate etiquette even if, being in difficulties on occasion over a patient and in the dark through inexperience, he should urge the calling in of others, in order to learn by consultation the truth about the case . . ." for a "physician's reasoning should never be jealous of another. To be so will be a sign of weakness. Those who act thus lightly are rather those connected with the business of the market-place."[9]

"You must also avoid adopting, in order to gain a patient, luxurious headgear and elaborate perfume."[9] The physician, however, "must be clean in person, well dressed . . . also of a great regularity of life . . . He must be a gentleman in character, and, being this, he must be grave and kind to all."[10]

Before concluding his address Hippocrates sketched for us in outline some components of the year's curriculum. Apart from clinical instruction, the importance of which he rated very highly, he proposed lectures dealing with Prognostics and Regimen in Acute Diseases, and as a part of a course in public health others relating to Epidemics and environmental factors (Airs, Waters and Places). In the department of surgery special studies would be allotted to Fractures, Injuries of the Head, Hæmorrhoids and Fistulæ. He would much like, he said, to have included a series of lectures on Ancient Medicine, but he regarded the curriculum as already over-burdened, and he must leave it to his students to discover for themselves the treasures and wisdom of the ancients and the early origins of medicine in natural lore. He regretted, he said, that he had made our task appear so long and arduous, and life, alas, was all too short for the accomplishment of our aims, but he knew we would be in no wise deterred, but rather, loving science, that we would press forward to the goal. He then recited to us the famous Oath, but as a copy of this is to be found in the library of every good school of medicine we will not quote it here. Lastly, Hippocrates gave us his blessing and said that he would meet us on his round to-morrow to discuss some cases of interest, and particularly that of "Silenus who lived in Broadway near the place of Eualcidas and had been attacked by a fever after over-exertion, drinking, and exercise at the wrong time."[7] His teaching on this round we will record hereafter.

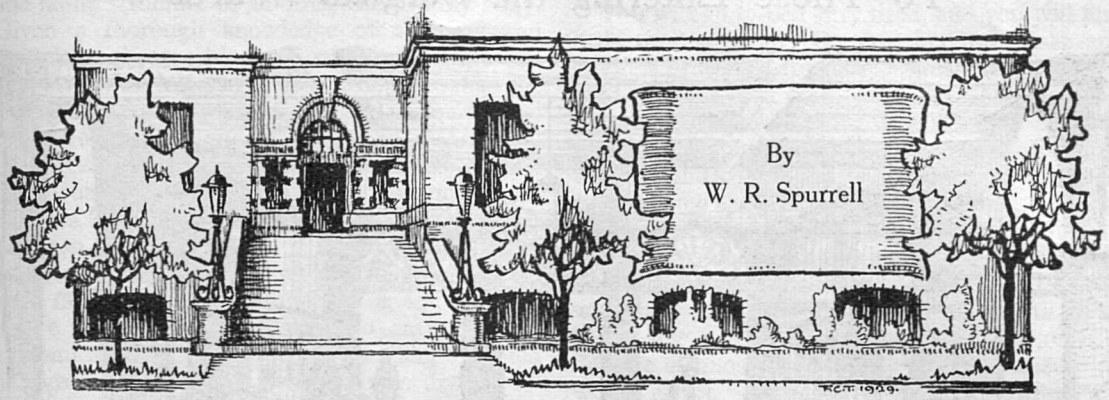
As he turned to leave us the shadows were lengthening and a gentle breeze from the Ægean stirred the leaves of the Plane Tree. We were spellbound by the beauty of the moment and the scene and by our reverence for the Master and his Philosophy, and even refrained from the customary stamping of feet. The task which he had set before us was difficult indeed, but we knew it was worthy of our highest endeavour. Whithersoever the Fates might lead us, we thought, whether into the arduous life of the general practitioner, the physician or the surgeon, whether to the public or foreign services, or to one or other of those branches of philosophical inquiry sometimes called Research, we should ever have a standard of duty before us, an ideal for the mind, which must needs make our work better and life more beautiful. Whatsoever the task shall be, we vowed, we will seek to observe and record carefully and truthfully the facts of Nature and so to increase the knowledge of disease which, just as much as health, is a part of Nature. If we become specialists we will endeavour never to lose sight of the whole in our contemplation of the part. We will share our learning freely with our brother-physicians and in no way be jealous of our discoveries. Art is long and its end unattainable, but we will continue to seek it. Judgment, as he often told us, is difficult, but, for the sake of science and humanity, we will cultivate judgment above all else. . . .

(*The rest of the manuscript is missing, and with it the writer's account of the ward-round, but the case of Silenus, who clearly took after his namesake, the companion of Bacchus, may be studied with others in "Epidemics I."*)

REFERENCES

1. The Law.
2. The Oath.
3. The Sacred Disease.
4. The Art
5. Breaths.
6. Epidemics VI.
7. Epidemics I.
8. Decorum.
9. Precepts.
10. The Physician.

To Those Undertaking the Pre-Clinical Sciences



By
W. R. Spurrell

"THE real object of any education curriculum is to cultivate in the student's mind a capacity for deductive reasoning—independent criticism based on a solid foundation of common knowledge." The Pre-Clinical Sciences lay the foundation-stone of the student's medical education and, as such, they serve a dual purpose. Firstly they supply the basis of "common knowledge," and secondly they discipline the student's mind to orderly thinking and logical deduction.

With the advance of scientific knowledge, the principles of Chemistry and Physics are becoming more and more applicable to the interpretation of living processes. A knowledge of these general principles is an essential preliminary to the present-day study of medicine, inasmuch as many of the phenomena of health and disease can be associated with chemical and physical changes. Biology serves as the student's direct introduction to living tissues and provides a valuable comparative survey leading from the simpler forms of life to the complexity of the human species. Anatomy and Physiology stand at the portals of the study of medicine and nobody may enter into the realms of abnormality and disease until he possesses the sound knowledge of the normal structure and functions of the body provided by these subjects.

In the process of "learning," it is a sound physiological principle that the approach to the receptive powers of the mind should be through as many channels as possible; therefore the teaching of these sciences does not rely merely upon the spoken or written word, but largely upon practical exercises. The major part of this period is occupied with practical classes which, while developing the student's manual dexterity, have as their main object the training of the mind in accurate observation and logical deduction, the keystones of the art of clinical medicine.

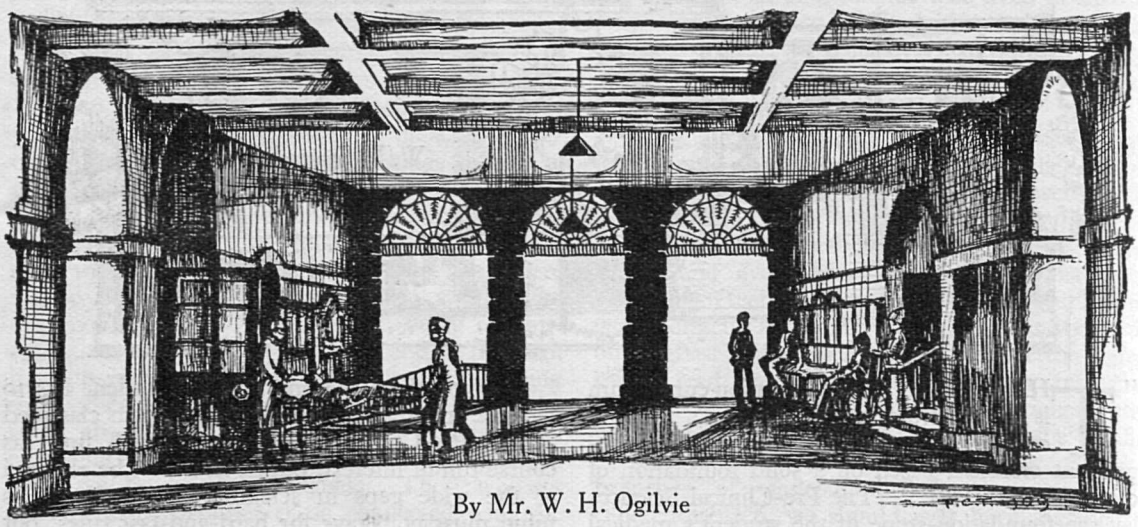
It is for these reasons that the student has to face the apparently wide range of subjects classified as the Pre-Clinical Sciences. He will find his course full of interest, but he must not be alarmed at the wide gaps in scientific knowledge. His mind must not crave for hard-and-fast rules, but must be prepared for the infinity of variations which contribute to the fascination of the study of life. Guiding principles and "common knowledge" he will acquire, but he must strive hard to preserve a flexibility of mind which will permit only of accurate observation and sound reasoning.

There are some earnest students to whom "reading" is synonymous with "learning"; to these hard workers a word of warning may save much "midnight oil." Reading without thinking is useless, except as a soporific; a certain amount of reading is essential, but it is far more important to devote plenty of time to thinking of what has been read and, better still, the student should cultivate the habit of discussing his problems with his colleagues and teachers. A blackboard, a piece of chalk and a friend provide excellent educative media.

The medical profession deals with living individuals and so with a variety of personalities; for this reason it is important that the student should acquire a wide range of personal experience. "All work and no play makes Jack a dull boy" is a wise saying; partly for reasons of physical fitness, but also for the development of a wider outlook, the student should develop outside interests, hobbies and games. Although there is a lot of work to do, there is ample time for a reasonable amount of recreation. Wise utilisation of leisure and wise application to study are both essential in successful training.

"Work a little, play a little, rest a little while," and the days devoted to the Pre-Clinical Sciences will be enjoyable and well-spent.

To Those Entering the Surgical Wards



By Mr. W. H. Ogilvie

GUY'S HOSPITAL rightly enjoys a world-wide reputation as a medical school, which for generations has sent into all parts of the world doctors armed with practical knowledge and with the willingness and ability to take responsibility which a practical training implies. There are two special advantages of the teaching here—the great wealth of material which passes through the wards and Out-Patients' Department, and the responsibility which is given to every man from the very outset of his career. In each appointment he is not taught only, he is asked to carry out essential work for the Hospital and for his patients, and trusted to carry it out well. At the beginning and close of the clinical period stand two appointments which are peculiar to Guy's, Surgical Ward Clerk and Clinical, and both of them have this combination of responsibility and instruction.

It is on the surgical side of the Hospital that you who are now entering the wards will first encounter the practical side of the profession you have adopted as your life's work, and the human material with which that work is to be carried out. It is as well that it should be so, for here the issues are clearer. Later will come the study of prolonged and progressive disease, of those degenerations which follow upon misspent lives or have causes still unknown, of failures rich in scientific interest, but at present beyond your power to remedy. You will meet much that is depressing. But during your first three months in a surgical ward you will find yourself in one of the most cheerful places in the world, where hope is the keynote, and hard, active, useful work your daily occupation.

For you who have chosen aright, this time will stand out with ineffaceable clearness for the rest of your lives. What has gone before has not been without interest, but the interest was academic. It was like the long drilling on Salisbury Plain, which made the raw recruits into the material of Kitchener's Army. The crossing of the Channel took them from make-believe to real war, the actuality for which all the drill had been a preparation. The rehearsal was over, the curtain was up. And so, in a surgical appointment, you are suddenly in the midst of real life. You are confronted with accidents, sudden infections, grave calamities. In the main it may be said of the patients whom you will encounter, that they are healthy, normal, sane individuals, struck without warning by some sudden misfortune. You are present at this crisis in their lives, and it is in your power to help in fighting it. There is something to be done; and when it is done it is your privilege to see the rewards of victory—the quick recovery and the return of hope.

There is another advantage of starting your career on the surgical side. You are introduced to disease in a comparatively simple form, and the knowledge of anatomy and physiology which is fresh in your mind enables you to grasp very much of what you encounter without the need of

lectures or text-books. Very much of surgery deals with local disease, that is to say, there is one faulty structure in an otherwise healthy body. Given a thorough knowledge of anatomy and pathology the teachings of surgery become self evident. Surgical diagnosis is little more than the answering of two questions—what is the anatomical structure involved and what are the pathological processes that have caused the trouble? A man has thrust his arm through a window and a piece of glass has penetrated the forearm. The first question that faces you, "What structures would be encountered from without inwards if an incision were made in such a situation?" is one that you might reasonably be expected to answer in an anatomical paper. The second question, "Which of these structures has actually been divided?" means an investigation of the sensation of the different nerves, and the movements carried out by the muscles and tendons which lie in the path of the injury, and a search for pulsation in the arteries distal to the wound. The treatment is an exercise in anatomy and craftsmanship, very interesting, because the relations which have been memorised by force of will are now brought vividly before you under the bright light of the operating lamp. Your hardly-acquired knowledge makes you not only a sympathetic fellow-man, but one skilled to restore function and promise recovery to the patient.

During these three months you will work very hard, probably harder than you have ever done before, but it is all tremendous fun. Your primary duty to the Hospital is to keep a record of the cases under your care. This you will do as well as possible, both for your own sake and because on the accuracy and lucidity of your account will depend the value of the record in years to come should the same patient be readmitted or should a series of similar cases be investigated for statistical purposes. Besides clerking, however, you will be expected to help in every activity of the firm to which you are attached, from carrying patients to making tea in the dressers' room during "take-in." This appointment is your great opportunity for making yourself proficient. You should familiarise yourself with the somewhat elaborate routine of modern asepsis. You should take every opportunity to watch the dresser looking after your cases, for in the next appointment you will be a dresser yourself, and will be expected to know your work. It is the privilege of the beginner to ask questions, and this you should do in season and out of season. All knowledge which you acquire will stand you in good stead as a dresser, and as a dresser you will have more work to do yourself and less opportunity to learn by watching that of others.

You will go to bed very tired, and you will find little time to read. Do not therefore make any attempt to work through a surgical text-book, but read up your own cases carefully. True surgical knowledge is part of your own self, and is based upon a memory of individual cases followed through and committed to memory. To be thus remembered each case must be a clear-cut picture; therefore begin at once to form the habit of definite decision. At this stage it is far better to be certain than to be right. To begin with, you will have but little knowledge, but with what knowledge you have examine each case, make a definite diagnosis, and decide what treatment you would adopt. Whether the outcome proves you right or wrong, you will remember it, and you will have learned something in the process. But if you allow yourself alternatives you may be tempted to the complacent reflection that one of them at least was right. Any man who could remember all his mistakes would be the wisest surgeon in England at the age of 60.

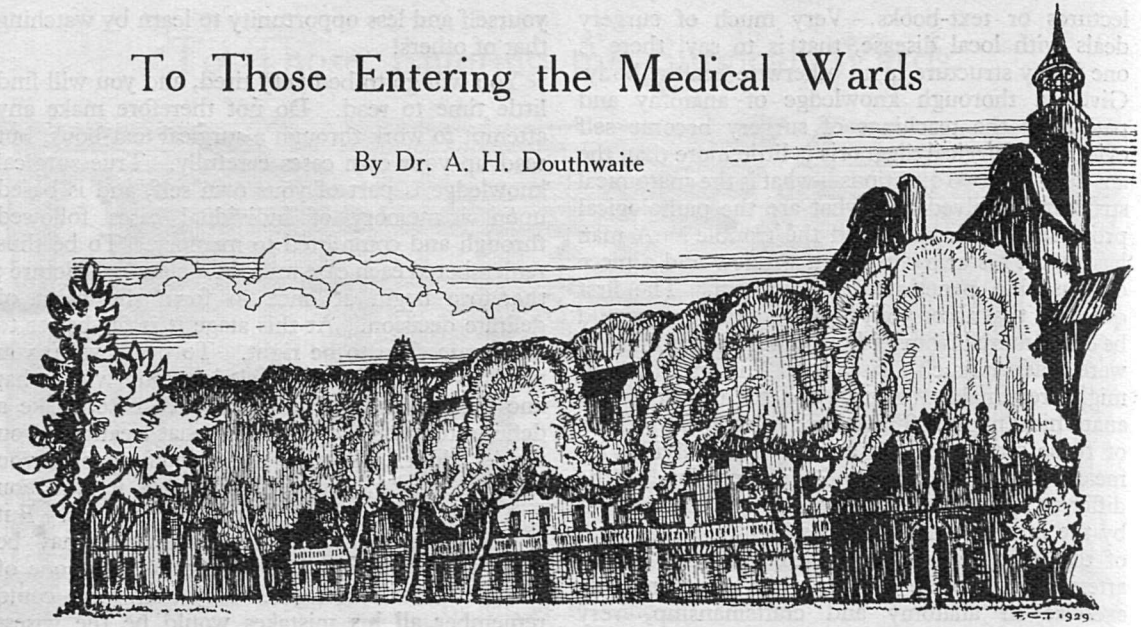
Be interested in everything in your patients and your fellows; no less in the nursing which completes the cure than in the operation which initiates it. It is an old saying that the wise doctor treats the patient as well as the disease. Enter into human relationships with your patients. They will call you doctor and will hang upon your words, and there is much you can do to make them well besides ministering to their surgical wants. In this side of your work alone you will learn much that will help you to success in after life. At Guy's we are particularly fortunate in our patients. There is no foreign quarter in the Borough, no shifting population. British dockers, navvies, carters, factory hands and their wives and children, come into our wards to be made well. They are fine people and proud of living round the best hospital in England. Their happiness and our good name are in your hands.

Guy's Hospital Gazette

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

To Those Entering the Medical Wards

By Dr. A. H. Douthwaite



PARTICULARLY to those of you who come to us from other medical schools, the absence from Guy's of the formality, of the scholastic atmosphere, peculiar to so many hospitals will be very striking. No attempt is made to control your studies as by a schoolmaster. A high degree of freedom is allowed you in the knowledge that every opportunity and help is also offered to those who want to work. You are credited with the intelligence necessary to learn from textbooks, and, therefore, we do not give set courses of instruction by lecture in medicine. The aim at Guy's is to keep as much time free as possible for students to gain practical experience in the wards in order that they shall develop into self-reliant and efficient doctors. The wide capabilities of a Guy's man are recognised by the medical profession all over the world, and are directly attributable to the absence of " spoon-feeding " at this hospital.

It is not my purpose to preach to you of the necessity of hard work and devotion to Guy's. Presumably the majority of you have taken up medicine by inclination, in which case a few days of work amongst sick people will heighten your enthusiasm and provide you with such absorbing studies that no urge will be required.

To the few who are constitutionally tired, again advice will not be offered. No man has ever worked the harder in obedience to exhortation. It may even appear to you that you can drift through your life at Guy's with the minimum of effort. This is to an extent true, but these things are noticed, and have been known to lead to a pressing invitation to transfer allegiance to another hospital.

The abandonment of relatively exact sciences dealing with controllable substances and reactions for a life in the medical wards full of materials which, though superficially uniform in nature, actually differ completely by virtue of the unaccountable processes of human minds, not infrequently produces confusion combined with a fear that the earlier studies can be of little practical help. It is, however, precisely this human element which renders clinical medicine at once so fascinating and yet so difficult, for diagnosis usually rests mainly upon symptomatology, and to a less extent upon physical signs. Symptoms, however, have no fixed standard by which their severity can be assessed; their description is inevitably coloured by the personality of the patient.

The natural tendency to proceed to the examination of a patient without taking a careful history is, therefore, strenuously to be avoided. One should rather devote the greater part of one's time to listening to his story, and then, by careful questioning, sift the relevant from the irrelevant. In so doing, the true nature of the disease commonly reveals itself before ever a finger has been laid on the sufferer.

As a matter of course, a very careful physical overhaul should follow; nothing must be left to chance, which rarely favours its disciples. Nearly all diagnostic mistakes are referable to shoddy

history-taking, or incomplete examination. It was a recognition of this fact which lead to the institution of the Preliminary Clinical Period during which appointment you will have every opportunity of thorough grounding in essentials.

Probably the most valuable time of the day for the acquirement of practical knowledge is that which follows the afternoon round. It is then that the house physician performs lumbar punctures, collection of blood, tapping the chest and so forth. Naturally every opportunity should be seized of watching these procedures, which will, no doubt, be given to you to carry out from time to time. It is now, also, that special signs referred to in the teaching rounds can be re-examined, and thus fixed in the memory. Every evening, for a month at least, one pair of optic discs should be searched for with the ophthalmoscope. Once the knack has been acquired, and this usually comes quite suddenly after several days of disappointment, it will never be lost. It takes much longer, however, to obtain a clear mental picture of the normal as opposed to the diseased disc, and yet recognition of early change may be decisive in clinching a diagnosis, and possibly even in saving a life. It is for this reason that the daily study of retinæ should be made a fetish.

In addition to your work in the wards, you should attend post-mortem demonstrations whenever possible, and attempt constantly to correlate the morbid findings with the reported clinical signs. Nowhere are the many pitfalls which beset the path of the diagnostician so lucidly revealed as in the post-mortem room, where errors are ruthlessly exposed. In years to come you also will experience the epigastric discomfort which assails us on approaching the exposed remains of a case whose malady during life had seemed so simple of explanation.

As to reading, this should be limited to descriptions of any disease which you may have witnessed on that day in the wards, whilst the rest of the evening should be devoted to pathology. A thorough grounding in this subject greatly simplifies the study of sick people and, by allowing of inductive reasoning, robs symptomatology of many of its difficulties.

Do not let your natural, or acquired, enthusiasm for work beguile you into the belief that by living near the hospital you will absorb from the atmosphere a little extra learning. Far from it, you are much more likely to become a prey to disease induced by ill-ventilated, dark and dirty rooms. Eventually it may be necessary for you to take up residence at Guy's; but that will be quite soon enough.

Whereas in pre-clinical years holidays are unnecessarily long, those which can be taken subsequently without the loss of invaluable experience are very scanty. Three weeks a year is the minimum which should be taken, and this must be supplemented by frequent week-ends spent away from town and books.

It is equally important to keep a watchful eye on your mental well-being lest frequent contact with those of similar pursuits lead you into the deplorable condition of having no interest outside that of medicine. To avoid this try to live in diggings with a man in some other faculty, and never go on holiday with a fellow medical student, no matter how desirable a companion he may be.

Seize all opportunities of speaking in public. The Physical Society is an excellent starting point for the practice of an art which is difficult to most of us, but of the utmost value to all.

As a last word, I would draw your attention to the fact that at Guy's quite exceptional reliance will be placed upon you from the moment you take up the duties of ward clerk. Certain examinations are left entirely to you. The case reports are essentially your province. Failure to carry out the duties conscientiously may not only "let down" your house-physician and corresponding member of the visiting staff, but, also, even endanger the lives of patients for whom you share responsibility.

The Dental Profession

Presidential Address to the Guy's Hospital Dental Society, by Arthur Bulleid, L.R.C.P., M.R.C.S., L.D.S.

I HAVE chosen this title for my address to you this evening for two reasons. Firstly, I thought it should be of some interest to all here without being too controversial in nature, and secondly, because by it I wish to pay tribute to a great dental surgeon and friend who has recently died under tragic circumstances. He was a man who loved his profession, and he held the highest ideals as to the service he should render his patients. It may not be possible for many of us to attain the marked degree of technical skill he enjoyed, nor perhaps is it possible for many of us to have the great charm of manner he possessed, but we can all strive after the ideal of service which was ever before him. To him the practice of dentistry was more than a means of

obtaining a livelihood—it was an absorbing passion. During his whole professional career he was always striving after the ideal and inculcating into his patients some of that enthusiasm for the work which he felt so keenly. Like all great men he was ever ready to help others and, many there must be who owe a great deal to his teaching. Nothing was too much trouble if he felt that a student required assistance, but woe betide the man who failed to show the proper enthusiasm for his work or who did not try his best.

I had many arguments with him at various times because we did not see eye to eye as to the best method of teaching dental students. He obtained his training in Canada and, like many Colonials, was not an easy man to persuade by argument. I must own that so many of his arguments in favour of his own methods of teaching were unassailable that I was sometimes disappointed he would not see a few of those I put forward. In spite, however, of our occasional divergence of opinions, he was a great friend to me and a great teacher. I have perhaps burdened you all a little with this story of a man few of you ever met, but I have done so with a good reason in that he was an idealist and so was a man I can safely hold up to you to copy as you are taking up the profession of which he was so proud.

I feel quite certain that all of us here must have had ideals of life and conduct inculcated into us from our earliest childhood, and what is so much wanted is that we shall carry these ideals into our work.

I am afraid I am not quite the right person to preach you all a sermon, but I should like to feel that all here will aim at a very high standard of efficiency in their work from the date of entry to Hospital until they lay down the tools of their craft for the last time. It is fairly easy whilst at hospital for anyone to put out only " second-best " efforts, and only too fatally easy to continue making only " second-best " efforts right throughout life. If, on the other hand, the best that is in us is put into our dental work from the start, there is no doubt that, apart from any monetary consideration, a great sense of happiness and satisfaction will result. Unless one puts the best into life one cannot hope to get the best out of it.

In quite a number of cases I suppose you have taken up dentistry as a profession because your fathers were either dental surgeons or doctors, and it is up to all of you to repay your parents for the sacrifice that has been made to fit you for your work.

Whatever may have been the reasons for your entering the dental profession there is no doubt that it offers you all great scope for your talents and a sufficient, if only modest, income.

At one time the dental profession was considered by the medical profession as one of no special importance, and the work done in the mouth was not considered to have much bearing on the health of the patient. Those who took up dentistry were not thought to be of the same educational or social standing as the doctor, and " what are the relations of the inferior dental " was a gibe that was cast at us even in my early days.

To some extent the dental profession had only itself to blame for this attitude, in that the members of the profession were always a little apologetic for carrying on dentistry and not medicine. The general public, too, was not sufficiently well educated as to the importance of good dentistry and did not realise the value of the work that was carried out in the mouth. This attitude was partly due to the fact that there was no question of life or death hanging on to the dental decision, whereas in many cases it did hang on to the medical decision. In so many cases the dental surgeon was not sufficiently proud of being a dentist as the doctor was of being a doctor, and so, naturally, he was not able to impress his patients with the importance of his craft. This attitude is now, luckily, almost a thing of the past, but it has died hard, and even now cases crop up where the doctor arrogates to himself the directing of the dental as well as the medical treatment. That this attitude is all wrong is obvious, and here at Guy's, at any rate, no such interference is thought of. If our ideals of service are similar to those of our medical confreres (and they should be), then no adverse comparison between the merits of the two professions should ever occur.

Now to turn for a minute or two to that vexed question of the double qualification.

It has been said that a number of men who will finally practise dentistry take a medical qualification so that they, at least, shall be considered on a par with their medical brethren. Some people have given it as their opinion that the result has been the turning out of men who are neither good dentists nor competent doctors. Personally, I am in entire disagreement with such a view. I am unhesitatingly in favour of every dental man taking a medical qualification if he can possibly manage to do so. It will not make him a better dentist from the purely mechanical aspect, though it should not have the reverse effect and detract from his mechanical skill, and it should make him infinitely better able to judge the merits of the

cases he deals with. It should give him a broader outlook, a more reasoned judgment and a greater sense of responsibility. That such a medical qualification does give him an added prestige there can be no doubt, particularly if he is going to practise in the provinces. I would not, however, have any man take a medical qualification merely with the idea of sheltering under the medical cloak. I think dentistry is becoming sufficiently big a profession to allow of specialisms in it, and therefore, for this reason if no other, I am in favour of all who can spare time and money spending a certain time abroad with a view to studying the artists of other countries. This tendency to acquire knowledge in foreign countries and the interchange of views between dental men in different countries is, to my mind, one of the signs that the profession is becoming more alive to the potentialities of dentistry.

The same may be said of dental research—due time and remuneration should be afforded those workers who are fitted to carry out dental research, so that in due course the profession as a whole may be able to share in and confer on their patients the fruits of the research worker's efforts.

Sometimes I wonder if it was a progressive or a retrograde step to have instituted a special diploma for the man taking up dentistry. My own view is that it would have been better if everyone taking up dentistry should first have taken a medical qualification and then, and not till then, branched off into his special dental training. I am afraid this is a dream of a Utopia which can never now be realised, especially in times of economical distress like the present, but all the same one is entitled to one's dreams.

Be you singly or doubly qualified men, however, there is no doubt that the one important thing to strive for is a pride in the profession you have taken up, a pride that will only legitimately be felt if you put your best into your work. Take your ideals, as that dead friend of mine did, into your daily work. "Dare quam accipere" is a motto which will never be proved false.

To Those Entering the Nursing Profession

SINCE the last Students' Number of the *Gazette* approximately 120 probationer nurses have entered Guy's Hospital. To some this is rather a belated welcome, but perhaps not too late to wish you all a happy and successful career. You have before you three of the most eventful years of your lives. They will hold plenty of hard work, some play—appreciated as it has seldom been before—excitement, and endless opportunities to help and serve others.

You will often find it a very exacting life. Few professions make such demands upon its members, physically, mentally and morally, as nursing; but, if you possess a real love of caring for sick people, patience and understanding, you will find yourself gradually becoming equal to those demands. Nursing is extremely satisfying work. It satisfies the hands, the mind and the heart.

It is essential that you should maintain your outside interests both for your own sakes and for the sake of your patients, who often depend upon you for food for thought and entertainment. This is not as difficult as it sounds, for nowadays off-duty time is good and many facilities for sport and other kinds of recreation are provided in hospitals. The Guy's Hospital Nurses' League possesses active tennis, swimming, choral, debating and photographic clubs, while the Student Nurses' Association of the College of Nursing frequently gives entertainment of a more serious nature.

Have a regard for old-established customs, for they are probably carried out at the wish of the Founder of the Hospital. Tradition has not hindered progress at Guy's during the last 200 years. You have opportunities through the Nurses' Representative Council to leave the mark of your generation on the Hospital.

Above all, keep your sense of humour. It will carry you through many a difficult time; and there is no need to sacrifice your individuality providing you preserve a sense of fitness and can adapt yourself readily to a change of atmosphere.

As Sœur Pierre, Director of the School of Nursing, University of Louvain, said in her excellent address at the International Congress of Nurses in Paris in July last: "A true nurse is a convinced optimist. This healthy optimism, which may often cause some surprise, is the expression of intense moral force and true peace of mind."

Notice

Dr. P. B. Skeels, L.R.C.P., M.R.C.S. (an old Guy's man and formerly Deputy Coroner for the City of London), has been appointed Coroner for the Metropolitan District of the County of Essex.

The Medical Curriculum

1. The Sciences

THE matriculated student will, in his first year, study Inorganic and Physical Chemistry, Physics and General Biology, and at the end of this period, provided he has worked diligently in the laboratories, and attended the Lectures and Revision classes regularly, should have no difficulty in passing the First Examination for Medical Degrees. In his second year he will study Organic Chemistry, together with Anatomy and Physiology, and at the end of the second winter, provided, as before, that he has worked steadily from the commencement, should have little difficulty in passing the First Part of the Second Examination for Medical Degrees. Anatomy, Physiology and Pharmacology are then taken as the Second Part of this Examination at the close of the third winter, prior to commencing Clinical work in the wards.

From Medical and Dental students who are preparing for the Pre-Medical Examination only six months' work is required, but those entering without previous knowledge of Chemistry and Physics will find that time hardly sufficient, and are usually advised to take the full "year" of three terms, or nine months.

The importance of practical work cannot be too greatly emphasised, and lectures and books can but supplement work done in the laboratory. Guy's men have no excuse for neglecting laboratory work. Students are strongly urged to form early the habit of spending their spare hours, apart from those officially allotted, in one or other of the laboratories. Reading should be left for the evening. After a day in the laboratory, reading a good text-book will be found to give ample scope for thought. "Cramming," or the memorising of words and phrases, without a knowledge of the corresponding realities, is one of the worst intellectual habits a student can acquire, and in the long run invariably leads to failure.

CHEMISTRY AND PHYSICS

The student is often tempted to regard the study of Chemistry and Physics as one of very little use when once his preliminary examination is passed, but he will find in his study of the sciences of Physiology, Pharmacology and Pathology that a proper understanding of Physical and Organic Chemistry and Physics is invaluable and essential. That this is so is now fully recognised in the London University curriculum, which should be carefully studied by every London student.

BIOLOGY

Biology, like all the sciences, is properly studied in the laboratory, because things seen are better understood and remembered than things read or heard. Animals and plants are the true sources of a knowledge of biology, and more correct than the text-books written about them. Acquire, therefore, the laboratory habit and record carefully what you observe. Use your books as reminders of the things seen. Draw much. It saves you from the habit of verbal memorising. The drawing of a diagram is the best way of testing the accuracy of one's knowledge in a descriptive science like biology. In the laboratory are also demonstrators whose duty it is to clear up your difficulties. Equip yourself with the necessary instruments. A microscope is needed at once. Its purchase requires care and advice. Students have been known to saddle themselves with an instrument that gives them unsatisfactory results for a whole year, and gets condemned in a later microscopical course. This is poor economy, as the difference in price between a good and poor microscope is small. If you are buying a secondhand instrument, bring it to the laboratory for examination by the demonstrators before you complete the purchase.

ANATOMY

Too much emphasis cannot be laid on the importance of the careful dissection of the human body as an aid to the student in learning the subject of Human Anatomy. The man who has not dissected the whole body with average care can never hope to acquire familiarity with the subject, and experience shows that the man who neglects or "scamps" his dissections—and incidentally endeavours to make up the lost ground by dint of hard reading—has infinitely more difficulty in satisfying the examiners than the man who has completed his dissections conscientiously, even though he may have given much less time to his reading than he might have done. This is, it is true, the sordid examination point of view, but it is, nevertheless, not to be lost to sight.

It is unfortunate that limitations of time and other cogent reasons demand that the student should commence his dissections at the same time as he receives the introductory lectures on anatomy, an arrangement which increases his initial difficulties in the dissecting room. At the very outset

he will find himself faced with a mass of facts in which there seems to be neither rhyme nor reason. After a little, however, the fog by which he has been enveloped will begin to lift, and, gradually, he will come to appreciate that what at first appeared to be a chaotic collection of structures, endowed with unintelligible and apparently meaningless names, resolves itself into a reasonable and orderly arrangement of structures, whose names are, for the most part, peculiarly appropriate. There is a danger lest, at this stage, when he is beginning to see daylight, he should occupy too much of his time with the names which must necessarily be given to individual structures. The names themselves have, of course, no intrinsic value, and are merely used to facilitate description. Attention should be devoted instead to discovering the functions of the structures displayed by dissection and to observing the relationship which exists between function and structure. Throughout his whole period in the dissecting-room the student should seek to correlate his Anatomy and his Physiology. If he does so he will find that he is simplifying the task in hand, for the one subject will help him with the other.

It is important, too, to appreciate that while the cadaver is being dissected the topographical information acquired by this means can be applied to the living subject. Most of the superficial structures and many of the deeper ones can be recognised either by the eye or by the hand in the living body, and the student should learn to identify on his own person, so far as is practicable, the various bony points, muscles, tendons, etc., which can be seen or felt. He should also endeavour to visualise on himself the position of the deeper structures which present no surface landmarks. After all, when he enters the wards, and in after life, he will have to deal for the most part with living patients, and, apart from actual surgical operations, he will be compelled to visualise on their bodies the position of the structures which he has dissected in the cadaver. The correlation between the dissected subject and the living body is difficult only when it is regarded as a separate section of human anatomy to be learnt from books, after all the dissections have been completed and in the last few days before the professional examination. The student, therefore, must constantly strive to form mental pictures of the regions as he dissects them, and to project these pictures on to his own body.

Once he has obtained a reasonable knowledge of the general anatomy of the body, the student who possesses any imagination will find Human Embryology a fascinating subject. Here he will find the explanation of much that may have hitherto appeared to be inexplicable, and here, too, he will see modifications of function and structure proceeding side by side.

The Guy's student is fortunate in having a modern and well-equipped department in which to work. In addition to the material which is always available in the dissecting-room and in the specimen rooms, the famous Towne collection of wax models, which is housed in the Anatomical bay of the Gordon Museum, can and ought to be utilised freely for study and for reference.

PHYSIOLOGY

Before the student can hope to appreciate the abnormalities and disturbances of function which form the material for his clinical studies, a sound knowledge of the normal function of the body is essential. Physiology is the science which supplies this basic knowledge and the student who obtains a firm grounding in this subject reaps his reward.

Physiology is a science which is entirely based upon the triad of experiment, observation and deduction. For this reason its study is of inestimable value for the training of the mind in the powers of logical reasoning. The major part of the course consists of experimental work in which the student is able to see for himself and draw his own conclusions; this makes the subject extremely interesting, and relieves the student from a heavy burden of hard facts which can only be retained by a feat of memory.

The practical classes are divided into three groups. In the experimental class the student records and measures the activities of living tissue from frog and mammal. In the chemical class he studies the composition and reactions of biological material. In the human class he makes observations upon the human subject. In all classes stress is laid on those aspects of his work which have a direct bearing on his future studies, so that he should carry into the wards a knowledge of the more important biological processes.

As a guide to the student in his studies a course of lectures is given each year; this serves, not so much as a source of actual information, as a means of correlating and balancing the student's knowledge. Observations, which may be quite dissociated in the student's mind, can be brought together—woven into a complete whole. In addition, clinical demonstrations are given to the senior students each week, and these serve as an introduction to the application of physiological principles in the study of the disturbances associated with disease.

The student is advised to commence his reading of Physiology with an introductory book such as

Winton and Bayliss's " Human Physiology," The choice of text-books is large, but Halliburton's " Handbook of Physiology " or Starling's " Principles of Human Physiology " should satisfy his needs. There is a small library in the Physiological Department, and students may borrow works on special subjects.

PHARMACOLOGY

Pharmacology is the study of the action of medicinal substances on the normal body. It is the basis of all methods of chemical treatment and forms an important natural scientific link between physiology and practical medicine.

A preliminary knowledge of physiology is essential. The student is introduced to the subject before his clinical period, but cannot realise its full significance until he has come face to face with the actual problems of therapeutics in the wards. A short revisional study at this stage of his curriculum is strongly recommended.

A six months' course of bi-weekly lectures and demonstrations is given during the two winter sessions, and should be attended by all students. Revision classes are provided for each of the four examinations of the Conjoint Board yearly. Candidates for the M.B. (Oxford) must also attend the practical classes which commence in January.

Lectures.—On Mondays, 4 p.m., Fridays, 1.15 p.m., in Physiology Theatre, commencing Friday, October 7th.

Demonstrations.—Details to be announced later. In Pharmacology Laboratory. Dates to be announced during lectures.

Revision Classes (Conjoint).—To be held in November in Pharmacology Laboratory. Dates to be announced later.

Text-books.—Dixon's " Manual of Pharmacology " is the most suitable text-book for general use. Gunn's " Introduction to Pharmacology and Therapeutics " summarises the subject in a readable way and is invaluable for revision purposes. The practical classes are based on Sollmann and Hanzlik's " Experimental Pharmacology," but Dixon's " Practical Pharmacology " is sufficient as a short laboratory guide.

A comprehensive Departmental Library is available for those more deeply interested in the subject.

2. Pre-Clinical Period

THE extension by the Examining Bodies of the student's curriculum of study has allowed the addition of an extra period of three months' preliminary instruction before the student actually embarks on his duties in the wards.

It has long been felt that the time allotted to the study of Medicine, in the limited sense, has of late years been encroached upon and curtailed by his duties in the Surgical Wards and the Special Departments, and the opportunity was gladly seized of redressing the balance by giving him extra tuition in medical subjects.

The object of the Pre-Clinical Period is to instruct the student in the routine methods of examination of patients and in the detection and interpretation of physical signs, so that on his entry into the Medical Wards he will be able immediately to derive full benefit from the teaching of the Registrars and Physicians without the laborious explanations and tedious insistence on elementary points necessary before the introduction of the scheme.

In addition to this instruction, which he receives from the Clinical Tutor in charge of the course, the student gets a course of Clinical Chemistry from Dr. Ryffel and Dr. Knott, Elementary Pathology, Minor Surgery and Bandaging from the Surgical Registrars, and instruction in the methods of examining the eyes, ears, nose, etc., from the heads of the departments concerned.

3. The Wards

SURGICAL WARDS

THE appointment of surgical ward clerk is the first of the appointments held by the student during his Clinical training. In many ways it is the best of all the appointments, as most of the teaching, both by the Surgeon and the Registrar, is for his special benefit. Furthermore, a reputation for keenness and ability earned in those early days will follow him and help him throughout the rest of his time at the hospital. Each clerk is attached to one of the surgical units for three months, and it is his duty to record the history and progress of the cases allotted to him.

The wards are open to the student at 10 o'clock, and he should have written up the history of the case and, as far as possible, have examined the patient before the Registrar of the unit begins his round at 10.30, when each case is discussed and the report of the clerk confirmed or amplified. The student during this period will do well to

confine most of his attention to the detection of the physical signs, and should procure from the Medical School Office a copy of the red book entitled *Instructions in Case-Taking, Surgical*, which he will find a very good guide to sound and systematic examination of the patients.

While he is acting as ward clerk the student attends a course in Elementary Pathology and Pharmacology, and at the same time has unrivalled opportunities of seeing dressing and operations, more especially during his "take-in" week. There will be much hard work, and many late hours, but there will be also incalculable compensation in seeing and learning the practical points that will stand him in good stead. He is doing his own work of ward clerk, but must remember that he is learning also to be a dresser.

As a dresser the student spends two periods of three months. While the surgical work is very dependent on the dresser for its smooth efficiency and good results, the dresser must realise that he himself is very dependent upon his work, for it is during these six months that he lays the foundation of his surgical knowledge and sound after-care. Someone has said that every surgeon should be his own dresser, so that the dresser must appreciate the responsibilities that he assumes in thus deputising for his surgeon.

We have said very little about the actual tasks of the dresser; he should read the "standing orders" relative to his appointment, and from then on everything depends upon himself. He has been given a valuable appointment and one difficult to do well, but one that repays hard work almost more than any other appointment he can hold.

MEDICAL WARDS

To each medical ward clerk is allotted a certain number of beds, and he is expected to examine and write full reports on all patients who are admitted into these. Occasionally, it so happens that a patient is too ill to be examined except by the House-Physician and Physician, or that a case dies before the ward clerk has had an opportunity of seeing it. Under these circumstances he should obtain the history and an account of the symptoms, physical signs and progress of the case from the House-Physician, and should base his report on these data. It cannot be too strongly insisted that a report, however brief, must be written on every case, and it is of the greatest importance that *the diagnosis and remarks made by the Physician should be entered at once into the report*. Moreover, any errors detected by the Physician or Registrar in the original report should be immediately corrected. In the event of a patient dying, the ward clerk must obtain the abstract of the post-mortem findings and carefully enter it up, and it need hardly be said that all clerks should make every effort to see the post-mortem examination of any case they may have seen during life.

The medical wards are open to clerks from 10 till 12 noon, and from 1.30 till 6.30 in the evening. The Registrars begin their rounds at 10.30, and by that time a clerk should at least have full notes of the history of any new patient who may have been admitted into one of his beds, and he should have a full report in readiness for the Physician in the afternoon. Ward clerks should realise that they are expected to know the details not only of their own cases, but of every patient under their Physician. It is no excuse to plead ignorance because "this is not my case." If only a clerk will take the trouble to make himself conversant with each case in this way he will find at the end of his six months that an enormous amount of clinical material has passed through his hands, and he will probably have acquired enough knowledge of medicine to enable him to pass the Conjoint Final with but little additional reading. But so many men waste their time through sheer laziness in the medical wards, never realising that they are throwing away experience which would prove invaluable to them later on.

Again, the curriculum provides but six months for the study of pure medicine, whereas nine months are allowed for the pursuit of surgical appointments. Further, during their period of medical clerkship men are apt to take more time than is justified for the study of Pathology and Bacteriology, which they have neglected whilst in the Surgical Wards.

An hour spent in the wards after tea three or four times a week will give opportunities not only for going over cases and writing up reports, but also for seeing the House-Physician tap chests and abdomens, etc. The treatment, too, which each case is receiving, may well be studied at this time.

As regards reading, the best method is to study the text-book account of each disease as one comes across it in the wards or in discussion, and afterwards to compare, if possible, the text-book description with the symptoms and signs presented by the patients. At the same time the most important medical journals should be read regularly, for by this means only can the student keep himself in touch with modern work. The *B.M.J.* and the *Lancet*, the *Quarterly Journal of Medicine*, as well as the *Journal of the American Medical Association*, are especially recommended.

Books that may be recommended are the following: The well-known text-book by Osler, Dr.

Poulton's revised edition of Taylor, Dr. Conybeare's *Text-book of Medicine*, and *Physical Diagnosis* by Cabot. For second three months ward clerks, the most important monographs in Allbutt's or Osler's *System of Medicine* will prove valuable and interesting reading. For laboratory work Hutchinson and Rainey's *Clinical Methods*, or Dr. French's book will be useful.

OBSTETRIC & GYNÆCOLOGICAL WARDS

After finishing appointments in the Medical and Surgical wards the student is posted to the Obstetric Department for six months. During the latter half of this time he is also attached to the Physician for the Diseases of Children. The Obstetric Dresser is responsible for case-taking in the wards and at Out-Patients, assists at operations, and during one month acts as Extern in the Maternity Charity. The Department has 26 beds reserved for gynæcological cases and 21 for the reception of cases presenting complications in pregnancy, labour and the puerperium and normal labours.

As an intervening link between the Obstetric and Children's Departments is the Salomons Centre, in which the health of mothers and infants is fostered by the practice of preventive medicine.

With this wealth of clinical material it should be possible for every student to obtain a sound knowledge of methods of diagnosis and treatment founded on no small experience. It is, however, recognised by teachers of Gynæcology and Obstetrics that this desideratum is not always attained. It is undoubtedly true that many a young practitioner has to admit a regrettable ignorance of the ailments which afflict his female patients and of the proper management of the pregnant, parturient and lactating woman. And these subjects form the foundation upon which a successful family practice is built. Responsibility for this sad state of affairs hardly rests with the student, but he will do well if he starts his clinical work with the firm determination to avoid the pitfalls that beset his feet. He must realise that practical experience in diseases peculiar to women cannot be acquired in the space of the three months which he will spend in Queen Ward. As he passes from one appointment to another he must resist the tendency to develop the compartmental mind and must endeavour to cultivate a wide outlook on medicine as a whole.

The study of the physiology and pathology of the functions of woman should be begun at the outset and continued throughout the period of clinical training. The man starting as Surgical Ward Clerk should include among his initial purchases a text-book on Gynæcology, for purposes of reference, and should make a point of attending the lectures of the Obstetric Surgeons. He should also avoid no opportunity of acquiring the " tactus eruditus " so essential to the accurate diagnosis of pelvic disorders ; the inherent impossibility of permitting a class of students to examine women patients one after the other renders it imperative that this experience be gained over a considerable period of time.

The study of midwifery he may well leave until he becomes an Obstetric Dresser ; the art of the accoucheur cannot be learnt from books.

4. Pathology and Bacteriology

PATHOLOGY

WHEN the student has passed the Second Conjoint or M.B. Examination, he is halfway through his medical curriculum, and he should have gained a working knowledge of the functions of the body in health. This knowledge is an essential preliminary to the study of the most important of the medical sciences, viz., Pathology, or the study of the functions of the body in disease. Throughout his life the student, if he continues to study and practise medicine, must ever keep pathology in the foreground. It is desirable, therefore, that the study of pathology be begun as soon as possible and continued throughout a medical career.

The subject is an exceedingly large one, and it is customary to divide it into s veral sections :—

1. General and Special Pathology ;
2. Morbid Anatomy ;
3. Morbid Histology ;
4. Bacteriology ;
5. Chemical Pathology.

Due attention must be paid to each of these branches in proportion to their importance relatively to one another and to clinical medicine and surgery as a whole.

During the pre-clinical period the student must attend classes and demonstrations in elementary pathology, bacteriology and chemical pathology.

During the Autumn, Spring and Summer Terms, systematic lectures and demonstrations in pathology and bacteriology are given. Three lectures and three practical classes are held weekly, the former at 9 a.m. and the latter at 12 noon.

Regular attendance at these classes is imperative, and the attractions of the wards and of clinical work should on no account be allowed to interfere with laboratory studies.

While medical ward clerks, during their tenure of office, should attend classes on chemical pathology, it is essential that throughout all ward appointments no opportunity should be missed of continuing the study of pathology.

Apart from set lectures and classes, students and house-officers are cordially invited to make use of the resources and facilities provided by the laboratories in order to add to their knowledge of a subject that lies at the root of all successful clinical work.

Every man should, as far as is practicable, follow out the pathology of each and every one of his cases.

Is a bacteriological investigation to be made? He should follow it out as far as possible. Is a portion of tissue removed for microscopical examination? He should see and examine the section. Is a chemical examination demanded? He should endeavour to see the analysis carried out. He should never miss an autopsy on any one of his cases, and should make a point of keeping a special note-book in which he can enter the clinical history and progress of a case, the post-mortem findings if the case comes to autopsy, and the result of the histological examination together with a general review of the case in the light of that further evidence.

Set hours cannot be given for these lines of study; they must be fitted in as time and opportunity permit. In short, efforts should be made to see as much practical work and as many demonstrations in pathology as can be arranged. There are few days when no pathology can be learned. Post-mortems are held every day at 1.30 p.m., except on Wednesdays and Saturdays, when the hours are 12.30 p.m. and 11.30 a.m. respectively. Attendance at these will amply repay the time expended.

Informal classes in Pathology are held twice weekly during the October and May terms. These, though primarily intended for M.B. students, are suitable for, and should be attended by, those sitting for Part I of the M.B.Cantab. and the Final M.B. of Oxford or London University.

During the later clinical appointments certain students may hold a few pathological posts, such as Student Demonstrator in Pathology or Student Assistant in the Bacteriological Department. One or more of these may be held in turn, and they prove exceedingly valuable from the learners' point of view.

There are many books which might be recommended, and what suits one student may not prove attractive to another. The following, however, will prove adequate for all the students' purposes: in Pathology, Boyd's Textbooks or MacCallum's or Muir's Manuals; in Morbid Histology, Donaldson's Handbook; in Clinical Pathology, Panton and Marrack; and for Bacteriology either Muir and Ritchie's Manual or Bigger's Handbook.

BACTERIOLOGY

Bacteriology, although for a time regarded by the clinician as affording information of merely academic interest, has now made a most profound impression upon the theory and practice of both medicine and surgery, and by providing specific treatment for many microbial infections has emphasised the necessity and stimulated the demand for exact diagnosis, and it is towards this direction that the student's interest is guided by the class in Practical Bacteriology.

Particular attention is devoted from the first instance to the technique of various investigations undertaken in connection with ward work. Thus the student himself examines sputum, pus and morbid exudates by various methods to demonstrate the associated bacteria. He is instructed in staining methods and the practical work of culture making, and is, moreover, encouraged to repeat for himself during the intervals between successive classes any observations and experiments previously carried out, in order to equip him for the performance in general practice of those more obvious methods of bacteriological diagnosis which experience has shown are both reliable and valuable. Demonstrations are also given upon the life history of the most important of the organisms which are pathogenic to the human race, and by the study of " pure cultures " an attempt is made to impress the chief characteristics of each upon the mind of the student, whilst the changes such organisms undergo or produce when they gain entrance to the human tissues are carefully emphasised.

Throughout the course considerable stress is laid on the further applications of bacteriology to treatment, including the use of various remedial agents such as sera and vaccines, which have been elaborated in the bacteriological laboratory for the treatment of disease, together with those facts and theories relating to natural and acquired immunity upon which bacteriological therapy is based.

5. The Special Departments

THE CHILDREN'S DEPARTMENT

In-Patient Accommodation.—Dr. Cameron has under his care 14 cots in the Children's Ward. On two days in the week, at present on Tuesdays and Thursdays at 2 p.m., Dr. Cameron goes round the ward and gives clinical instruction.

Out-Patient Department.—Children under 10 years of age are seen in the Children's Department at Out-Patients on Mondays, Wednesdays and Fridays from 9.30 until 1 o'clock. Dr. Cameron attends on Mondays at 10 a.m., and Dr. Hampson on Wednesdays and Fridays at 10 a.m., when clinical instruction is given.

The Salomons Centre is for the care of the mothers and children of the Midwifery Charity; attendances at the Centre are made by dressers in the Obstetric Department.

OTO-RHINO-LARYNGOLOGICAL DEPARTMENT

This Department is organised on the unit system. There are two units, one under the care of Mr. Mollison, the other of Mr. Layton. Patients are seen in the Out-Patient Department, admitted when necessary to the special wards, Dorcas and Christopher, and returned to the Out-Patient Department. This arrangement allows members of each unit to follow up the cases. Mr. Mollison's firm sees out-patients on Tuesdays and Fridays at 11.30 a.m., Mr. Layton's on Mondays at 9 a.m., and Thursdays at 11.30 a.m.

Dressers are appointed to the respective firms, and have every opportunity of becoming expert in the technique of examination of the ear, nose and throat, and of gaining experience in diagnosis and treatment. Large numbers of school children are seen. Minor operations are performed in the Out-Patient Department; these include, amongst others, operation for the removal of nasal and aural polypi, and of tonsils and adenoids, and for the lavage of the maxillary antrum; these operations are performed under the supervision of the Surgeon or the Clinical Assistant.

Twenty-seven beds and six cots are now allotted to the Department, and each firm operates twice a week. Mr. Mollison and Mr. Layton "take-in" during alternate weeks, and emergencies are admitted under the care of the firm on duty.

THE OPHTHALMIC DEPARTMENT

The Ophthalmic Department of the Hospital is in charge of the two Ophthalmic Surgeons. They are helped by three Assistants, one House Surgeon and Dressers. The Dressers are appointed four times a year for a period of three months, and assist the Surgeons at Out-Patients and at operations, and are responsible for the recording of the cases both in the wards and at Out-Patients. The Ophthalmic Department is an open field for any student to explore as far as he is willing and able, the amount of clinical work being sufficiently great for him to see all the more ordinary and common diseases of the eye in the space of three months.

The student will soon find that he is quite unable to form any opinion of his own on an ophthalmic case until he has mastered the use of the ophthalmoscope and can readily and accurately decide what is the refraction of the eye, and if the "fundus oculi" is healthy and normal. The theory of retinoscopy can be taught and is simple; the practice, however, requires constant application by the student before he can hope to obtain any sort of facility in it. The difficulties are mainly initial ones, and any time and trouble expended in mastering them will well repay any man in after life when he has qualified and is in practice.

MEDICO-NEUROLOGICAL CLINIC

Advanced Ward Teaching for Post-Graduates and Students is given on Tuesdays at 2.15 p.m.; Drs. Hurst, Marshall, Symonds, Gillespie and Witts meet in Mary Ward for the combined round at which a discussion is held on a series of cases.

NEUROLOGICAL DEPARTMENT

This Department is under the direction of Dr. C. P. Symonds and now provides facilities for a full three months clerkship, which offers excellent opportunities to those who desire practical experience in one of the most difficult branches of medicine. Tuesday and Friday mornings are devoted to Out-Patient work; Dr. Symonds holds a teaching round on Thursday mornings in the Eye Ward, while the Registrar goes round on Wednesdays.

DEPARTMENT OF PSYCHOLOGICAL MEDICINE

Now separated from the Neurological Department and providing a full three months course of Clinical tuition. In addition to Lectures and Clinical Demonstrations held at a mental hospital during the summer term, Dr. R. D. Gillespie is also responsible for a series of addresses on Normal Psychology during the spring session. Out-patients are seen on Tuesday and Friday mornings.

THE DERMATOLOGICAL DEPARTMENT

Out-Patient Days.—Mondays, New Cases, 9 a.m. Old Cases, 9.30 a.m.

Wednesdays, New Cases, 9 a.m.

Thursdays, New Cases, 9 a.m.; Old Cases, 9.30 a.m.

Wards.—There are three male and three female beds in the Eye Wards for Dermatological cases requiring careful supervision or treatment in bed.

Instruction in the diagnosis and treatment of diseases of the skin is given in the Out-Patient Department, and clinical demonstrations on selected cases are held from time to time.

THE GENITO-URINARY AND ORTHOPÆDIC DEPARTMENTS

These two appointments are now taken separately, but have a common House Surgeon. Students acting as Dressers in the Genito-Urinary Department have excellent opportunities of acquiring knowledge which will be useful to them in actual practice and examinations. Out-Patients are seen on Tuesday and Friday afternoons.

The Department has 7 male in-patient beds in Christopher, 2 female beds in Queen, and 1 cot in Evelyn.

Students should realise that their attendance at this Out-Patient Department is very necessary, as is evidenced by the very advanced state of disease in which some patients arrive for examination.

The Orthopædic Department comprises a large out-patient clinic and a number of beds devoted to patients suffering from deformity. Out-patients are seen on Monday and Thursday afternoons, and Minor Operations performed on Wednesday afternoon, and in the Out-Patient Department the student will meet with every variety of deformity, congenital and acquired. Considerable facilities are afforded for experience in the relief and cure of all chronic diseases of bones, joints, muscles, etc. Instruction in the principles and most modern practice in the use of appliances, plaster technique, and the more useful forms of Physio-Therapy is given by Mr. Trethowan, the Orthopædic Surgeon, and the Registrar. Numerous operations of a minor nature are done, such as manipulations for stiff and painful joints, correction of misshapen and rickety limbs, correction of scoliosis and immobilisation of tuberculous joints.

The in-patient beds are devoted to the most serious operative cases, such as extensive tendon transplantations, correction of malunited fractures, bone-grafting, the making of new joints, etc. Guy's is a pioneer hospital in possessing an excellent workshop for the manufacture of every form of splint and appliance.

It is in the Orthopædic Department that the principles underlying the mechanical disabilities of the limbs and spine are emphasised and their explanation made clear, and the experience to be gained here is invaluable. The great utility of orthopædic surgery has become evident to very many during the war.

THE MASSAGE DEPARTMENT

Massage as a training for women has been taught in England since 1888. Guy's Hospital opened as a Training School for non-resident women in 1913, and is the largest school in the British Isles.

The training extends over a period of 21 months and covers a very comprehensive course in Anatomy, Physiology, Theory of Movement, and Applied Treatments by Massage and Medical Gymnastics for most Surgical and Medical conditions.

Applicants desirous of entering for the course must produce satisfactory evidence as to conduct, character and education, with a minimum age of 18½ years. There are two terms of entry each year, one in March and one in September.

On completion of the training the students enter for an examination arranged by the Chartered Society of Massage and Medical Gymnastics. This body has a membership of over 8,000 on its register. It provides for a Register which is available to the medical profession, and ensures an adequate supply of qualified workers.

The Department.—Patients are given daily treatments during the hours of 1.45 and 4.30 p.m. on Monday, Tuesday, Thursday and Friday, and 9 a.m. and 12 mid-day on Wednesday and Saturday. It is during these hours that visits by the Medical Staff and students are invited. The after-care of those patients who are given treatment is of interest to all medical men. And during the years students are in the wards much can be learnt as to the methods of finally restoring normal function in their patients.

Students interested in this branch of the profession should see the Sister-in-Charge and arrange to see their patients treated.

THE TUBERCULOSIS DEPARTMENT

The Tuberculosis Department is a reference Department for out-patients suffering from diseases of the chest. Patients attend on two days a week, Thursday afternoons and Monday evenings. For suitable cases arrangements are made for admission to sanatoria. The patients return to the Out-Patient Department after leaving the sanatorium.

The Department provides extensive opportunities for studying methods of investigating early and doubtful cases of pulmonary tuberculosis, also for observing special forms of treatment such as artificial pneumo-thorax. A special appointment is now connected with this Department.

THE DEPARTMENT FOR VENEREAL DISEASES

This Department is open from 9 a.m. to 8 p.m. on all week-days, and from 10 to 12 noon on Bank Holidays.

Treatment is carried out for all venereal diseases in women, men and children, and patients may be referred from other departments at any of these times.

Students may attend the male section any evening from 5 p.m. to 7 p.m., and Dressers in the Gynæcological Department may attend the female section on Mondays from 5 p.m. to 7 p.m. or Wednesdays from 2 p.m. to 5 p.m.

Demonstrations are held on Thursdays at 5 p.m. in the Demonstration Theatre in this Department

Dressers are appointed to the Department every three months.

PRACTICAL PHARMACY AND DISPENSING

One of the many important things all medical students must know is how to write a prescription. It may even be necessary for the majority, when qualified, to be able to dispense the same. All students, therefore, would be well advised to acquire as much knowledge of the subject as they can.

The student is taught, practically, how to dispense the different medicinal preparations; he learns to write prescriptions, due regard being paid to doses and incompatibilities.

The course is conducted by the Hospital Pharmacist

ELECTRICAL AND ACTINO-THERAPEUTIC DEPARTMENT

The treatments carried out in this Department include the following: diathermy, high frequency, the application of the constant, faradic and sinusoidal currents, radiant heat, and static electricity, treatment by the Finsen and mercury vapour lamps and radiotherapy.

A special Department has, for some time, been opened for artificial sunlight treatment.

A large number of cases are treated in the Department: Chronic joint conditions, nerve injuries, wasted muscles, skin diseases such as ringworm, psoriasis, eczema and rodent ulcer. There are also a large number of cases of malignant disease undergoing treatment with X-rays and radium.

FRACTURE DEPARTMENT

This Department deals with all fracture cases which are treated as out-patients throughout; they attend on Thursday afternoons at 1 p.m. The appointment of dresser in this Department is a useful one, and is usually held concurrently with one of the later appointments that a student can obtain. Much experience in the treatment of uncomplicated fractures is obtained; at the end of the afternoon, plasters are applied to or removed from the various patients seen.

6. Books

ADVICE on this matter is extremely difficult to give, for individual needs are almost as varied as the length of individual pockets, and the adornment of a virgin bookshelf is bound to depend on both these factors. Except in the case of certain essentials for routine work, such as the dissecting room manuals, it is perhaps better to postpone the inevitable visit to the bookseller and first to consult the various tutors and demonstrators in the subjects concerned. They will be more than willing to extend any suggestions made under various headings in this issue of the *Gazette*, and their experience will enable them to advise that blend of old and new best fitted to the individual case.

The rapid advance in medical knowledge unfortunately renders the second-hand book almost worthless except in the case of Anatomy, where the advances, though many and real, are not apt to be so revolutionary as in Physiology and Medicine itself. A Physiological text-book probably becomes out of date in less than a year, a text-book of Medicine in two or three years at least, so that in these subjects at any rate recent editions are essential.

All that is most distinctive in current Guy's teaching is to be found in the *Guy's Hospital Reports*, which contains articles written for the most part by members of the Hospital Staff. The unqualified man has the special privilege of

purchase at a much reduced price, an advantage that he will be wise not to neglect.

A great number of publishers are responsible for medical books, and a just estimation of the rival claims for their various productions is quite beyond the scope of this article. Mr. Humphrey Milford at the Oxford University Press offers a wide range of medical works of uniform excellence in subject matter, binding and printing. Messrs. Churchill publish Taylor and Poulton, Romanis and Mitchiner, the *Recent Advances Series*, and many other well-known works. E. & S. Livingstone, of Edinburgh, present books containing the valuable teaching that emanates from both sides of the Tweed. Baillière, Tindall & Cox are responsible for the large Rose and Carless and a small synopsis series in their well-known *Aids*. Many splendid books are published by John Murray, Heinemann, Ltd., Cassell & Co., Longmans, Green & Co., Macmillan & Co., John Bale, Sons & Danielsson, Edward Arnold, and Constable, while Lewis, of Gower Street, sponsors a number of books in nearly every branch of medicine. Messrs. Lewis also run an excellent medical circulating library, familiar to generations of medical students, which should prove invaluable to the man who wishes to dip briefly into all the latest books. This is assisted by reference to their catalogues, which can, if desired, be purchased. Messrs. Foyle, of Charing Cross Road, specialise in second-hand books and also in those on sporting, as distinct from scientific subjects.

Mr. H. H. Grattan, in the Borough High Street, is the official bookseller to the Hospital, and is able to supply most of the books in common demand over the counter; any others he can be relied upon to obtain as quickly as possible.

The Dental Curriculum

THE Dental Student is supplied at the Medical School Office with the Prospectus, Standing Orders, Lists of Instruments, Calendar and Clubs' Union Book.

These pamphlets should be carefully read in order that acquaintance may be made with the general arrangements of the School and the scope of the work upon which the student will become engaged.

Notices regarding the time and place of Lectures are to be found posted up by the main entrance and at the head of the Main Staircase in the Dental Department, and on the notice board outside the Medical School Office.

Instruments having been purchased at a dental depot, the student should satisfy himself that he has been supplied with all of those described in the Hospital list, and have them inspected by his demonstrator.

It is inadvisable to purchase instruments before they are required. Instruments for prosthetic work are required for the B.D.S. course at the commencement of the second year, and for the L.D.S. course at the commencement of the first year. Clinical instruments are required for the B.D.S. course at the commencement of the fifth year, and for the L.D.S. course at the commencement of the third year.

Among the various depots at which instruments may be purchased are the following: The Amalgamated Dental Co., Broad Street, Golden Square, W.C., and 16, St. Thomas's Street, S.E.1; The Dental Manufacturing Co.,Alston House, Newman Street, W., and 2, Maze Pond, S.E.1; Cottrell & Co., 15-17, Charlotte Street, W.1; L. Porro, Ltd., 33, New Cavendish Street, W.1; The S. S. White Co. of Great Britain, Ltd., 126, Gt. Portland Street, W.1, and 19, Borough High Street, S.E.1. It is a wise precaution to arrange with the company supplying the instruments at very small extra cost to have the handles of all instruments stamped with the student's initials. Students are advised not to purchase equipment or instruments from other students without first referring and submitting same to a member of the Staff.

The course of study for the B.D.S. London covers a period of five years, of which the first year consists of Chemistry, Physics and Biology. The second year is occupied with the study of General Anatomy and Physiology, General Histology and Dental Prosthetics. The study of Dental Prosthetics is continued during the third year, together with Dental Metallurgy. Clinical work in the Conservation Room begins and, in addition, the subject of Dental Anatomy and Physiology, Dental Histology, Medicine, Pathology and Bacteriology constitute the fourth year's work, and the fifth year is occupied by General Surgery (Lectures, Demonstrations and Dressings), Operative Dental Surgery, Orthodontics, Dental Materia Medica, Dental Bacteriology and work in the Conservation Room.

L.D.S. students who come under the New Regulations must pass the Pre-Medical Examination in Chemistry and Physics before they can commence their four years' course. Subsequently, their first term is devoted to Dental Mechanics

and Elementary Anatomy and Physiology, and it is important that the student gets a good grounding in the former at this early stage. During the remainder of the first year the student continues his work in these subjects and takes Part II of the First Professional Examination at the end of the period. In his second year he completes his training in Dental Mechanics, studies Dental Anatomy and Physiology, Normal Dental Histology and Dental Metallurgy, and takes Part III (Special Anatomy and Physiology) of the First Professional Examination at the end of the second term, and Part I (Dental Mechanics and Metallurgy) at the end of the second year.

Third-year students for the L.D.S. commence the Clinical courses with a period of probationary work upon the phantom head. The operative course, conducted by a Staff demonstrator, is very comprehensive. It includes most of the operations that the student will subsequently be called upon to perform upon patients, namely, gold and other fillings, crowns, inlays and the treatment of devitalised and septic teeth. These operations upon the dummy form an excellent ground work in operative dentistry.

Thereafter the course of work consists in holding and diligently carrying out the work of the following appointments: *Probationer Dressership in the Conservation Room; Dressership to the Director of the Conservation Room; *Dressership in the Conservation Room; *Dressership in the Children's Department; Dressership in the Local Anæsthetic Extraction Room; Dressership in the General Anæsthetic Extraction Room; Casualty Dressership; Clerk to Anæsthetist.

In addition, the students prepare for the Second Professional Examination in Medicine, which is taken at the end of the third year of study, and attend the courses in General Pathology, Bacteriology and Medicine. Students are reminded that no course of study for this examination is recognised until Parts I and II of the First Professional Examination have been passed; furthermore, no study for the Final Examination is recognised until the whole of the First Professional Examination has been completed.

During the fourth year, students continue with their appointments in the Conservation Room, Anæsthetic Room and Children's Department, and, in addition, attend the courses of instruction in preparation for the Final Examination, *i.e.*, General Surgery, Dental Surgery, Operative Dental Surgery, Orthodontics, Dental Materia Medica, Dental Bacteriology and Radiology.

A student, apart from those holding the post of Assistant Dental House Surgeon, is not allowed to work in the Conservation Room unless he holds one of the appointments marked *, and application for these appointments must be made by the student quarterly, in March, June, September and December. A helpful pamphlet is available at the Medical School Office, perusal of which will indicate when and for what posts to apply.

An X-ray course is taken by the student in his final year.

The time varies, according to whether the course for the B.D.S. or L.D.S. is being taken, at which a student will come into actual contact with Hospital patients, but he should always endeavour to be punctual in his appointments with them. There is nothing more irritating and annoying to a patient than to be kept waiting unnecessarily; it also delays to a very great extent the easy working of the Department, and is detrimental to the public esteem of the Hospital.

Further, the student should remember that the cultivation of a courteous and gentle manner towards all patients will become in the future probably the greatest asset in his private practice.

Dental students will profit by following the practice of the Special Departments of the Hospital, *e.g.*, Throat and Ear. They will also have numerous opportunities of observing the more remote effects of dental disorders in the General Wards and Out-Patient Department.

Students in difficulties about their work and needing advice are invited to consult the Dean, Sub-Dean, Administrative Dental Officer or any other member of the Staff, who will be pleased to do what they can to promote their interests.

Guy's Hospital Clubs' Union

THE formation of the Clubs' Union, by the amalgamation of the then existing clubs, took place in the summer of 1891. The object of the amalgamation was to further the interests of the different clubs and societies by their mutual support, and to simplify the collection of subscriptions. By the payment of an annual subscription, at present amounting to 5 guineas per annum, a student obtains the privilege of membership of all the constituent institutions, whereas non-members are excluded from participating in the activities of any.

The affairs of the Clubs' Union is under the control of the Clubs' Union Council, consisting

of six Staff and six Student representatives. The Constituent Institutions are: Association Football Club, Athletic Club, Cricket Club, Debating Society, Dental Society, the *Guy's Hospital Gazette*, Golfing Society, Hockey Club, Lawn Tennis Club, Pavy Gymnasium, Pupils' Physical Society, Rifle Association, Rowing Club, Rugby Football Club, Sailing Club, Students' Club and Swimming Club. The Christian Union, the Guy's Physiological Society and the Guy's Hospital Musical Society are at the moment not affiliated.

The ground of the Clubs' Union is within 15 minutes' run of the Hospital (in this respect we are very fortunate), situated close to Honor Oak Park Station on the Southern Railway (Brighton Section) and close to Crofton Park Station on the Southern Railway (South-Eastern Section). It is nine acres in extent, and is the headquarters of the Guy's Football, Cricket, Athletic and Lawn Tennis Clubs. The Pavilion has recently been enlarged and improved, and hot and cold showers installed, in addition to several fine baths. A ground is provided for the Junior Rugby Clubs and for the Hockey Club at Motspur Park, which is easily reached from Waterloo Station. Members of the Golfing Society may play on one of many courses at specially reduced rates (see Golfing Society notices). The Rowing Club is affiliated to the London Rowing Club at Putney, where members are entitled to all the advantages of that club.

By kind permission of the Matron a swimming bath in the Nurses' Home is available for students on alternate days. Near this is a court for Squash or Fives (the property of the Hospital) and a recently erected squash court (the property of the Clubs' Union). Times may be booked in the College for play on either of these courts. A shower bath and changing room will shortly be provided adjoining the courts.

THE STUDENTS' CLUB

The Students' Club, perhaps the most important section of the Clubs' Union, is housed in the College, where there is now an excellent Catering Company, open only to members of the Clubs' Union. The Pavy Gymnasium is also housed here, where classes are given in Boxing, Fencing and Gymnastics. The Physical and Debating Societies hold their meetings in the College.

Further information about the different clubs can be found in the Clubs' Union Year Book—obtainable at the Medical School Office, and new students are also advised to consult the notice boards in the Colonnade.

Considerable improvements have recently been affected at the ground at Honor Oak Park. The Grand Stand is capable of seating 800 people and the small stands 100 each. A new hard Tennis Court has recently been put down and is open for general use. A considerable sum has been spent upon thoroughly re-draining and returfing the ground, and it is now in excellent condition.

An excellent programme of home matches has been arranged by the Rugby Football Club—*vide* Fixture Cards—and it should be noted that members of the Clubs' Union are entitled to free admission to the ground on these, as on all, occasions, on production of their membership cards.

For many years it has been our hope to effect a reduction in the subscription fees, but when the many privileges are considered, the fee is only moderate. Improvements to the Pavilion have been recently carried out, the ground floor has been completely reorganised, and there are now excellent facilities for changing and baths.

Rugby Football Club

THE season for 1933-34 has already started, but, as it is early yet, we may still write about the prospects of the season. We are still the holders of the Hospital Cup, and it is our duty, if possible, to keep it. There seems, without undue optimism, every possibility that we may do so. We have practically the same XV which won the Cup last year. Two of the pack have gone, T. Morgan, who was last year's Captain and who lead the team extremely well, and J. P. O'Shea, who was a good hooker and a good forward. It is possible that I. K. Thomas will not be playing this year, in which case we will have to look round for another fly-half or centre. J. E. Giesen, this year's Captain, will probably keep fly-half as he has done in the early matches of this season. P. C. Alexander is Vice-Captain and C. S. Darke Hon. Secretary.

Our fixture list for this season is very formidable; it is as good as that of any club in the country. Once more we are playing Blackheath, after a lapse of many years, and we are again playing Leicester, which also has not been on the fixture card for the past few seasons. A new departure is our meeting with Bath.

With this fixture list, it is good to have the feeling of security that there are so many of last year's team available; but it would be more encouraging if there were more new players drifting into the side each year, so that they could gain experience, instead of which, it looks as though

in a year or two we will be fielding an entirely new side without any of the old familiar names.

Of the new people nothing can as yet be said. We have heard of some by reputation, but have not as yet been able to study their worth. There is to be a trial game for them in the near future, and it is to be hoped that we will find some promising material on which to work up for the future.

One of the difficulties is to study the new people. The first team officials are so busy playing on Saturdays they are unable to watch the "A" team, and so everything has to go on hearsay, which is always unsatisfactory, as opinions in rugger vary as much as they do in any other sport.

An old idea has been brought up once more. This is that we should enter a team for the seven-a-sides competition. It was done in the past and proved a failure, after which it was dropped. The trouble is that our season ends practically with the Cup matches, which is in the middle of March. This seven-a-side competition takes place in the middle of April. A month's rest is bad enough from a normal game; for seven-a-side it is much worse. However, the matter is being considered.

For the Junior teams we have again acquired the Motspur Park ground. The "A" this year have not arranged Wednesday fixtures for September and the early part of October, and this has proved a blessing for the first team in enabling them to play several practice games to get together. The junior teams are stocked to overflowing, and with new people coming up every year, and the Medical School fuller this year than it has ever been, they should have difficulty only in finding games for everyone.

We hope this year to hold a Dinner some time in November. This time has been chosen because it has been found that in past years, when it was held at the end of the season, very few people were able to turn up on account of examinations and other similar inconveniences. This is a function for the whole Club, and a large gathering is essential for its success.

Mr. Fagge, who has "gone off," has also retired from the Presidency. We are very grateful to him for fulfilling the post so admirably last year. We are fortunate in having Mr. Turner as the new President. We are grateful to the following in kindly becoming Vice-Presidents :—J. J. Conybeare, M.D.; F. Cook, F.R.C.S.; R. Davies-Colley, C.M.G., M.Ch.; W. D. Doherty, M.Ch.; H. L. Eason, C.B., C.M.G., M.S.; E. C. Hughes, O.B.E., M.Ch.; Prof. T. B. Johnson, M.B., Ch.B.; R. P. Rowlands, O.B.E., M.S.; Capt. E. G. S. Walen, O.B.E.

We wish all XV's the best of luck and the First in particular.

P. C. ALEXANDER.

Association Football Club

A CORDIAL welcome is extended to new students desiring to join the Club. If they will put their names down on the list to be found in the Colonnade they will be given a game at the earliest opportunity.

The Hospital run three sides, two of which take part in the Inter-Hospitals' Cup matches. Last season was quite successful and the First Eleven only lost seven matches—unfortunately, one was the Semi-Final of the Inter-Hospitals' Cup. The Second Eleven had more success, and retained the Junior Cup for yet another year. We hope to see both cups in the "Spit" at the end of the present season.

W. A. GROOM, *Hon. Sec.*

Hockey Club

DURING the last few years the numbers of men playing hockey all over the country have very largely increased, and this tendency is reflected at Guy's by the formation of a third XI, whose record at the end of last season was encouraging.

We have not won the Hospital Championship for some years, but are the more determined to make a real effort now. A fair number of last year's side is available, and prospects are favourable for an enjoyable and successful season. Several attractive home and away fixtures include matches with R.N., Chatham and Aldershot Command.

Success depends upon team work more than ever, as the outstanding talent is limited, and our less brilliant performers can, must, and will be made into a formidable team, only by keenness shown by regularity in turning out and keeping thoroughly fit.

The University of London ground at Motspur Park has been obtained for all 1st XI matches, while our own ground there has been reserved for the junior teams. Both grounds are in excellent condition.

The trial for the United Hospitals' Hockey Club, whose side plays teams of County standard, including matches with the Occasionals and Wanderers, is on October 16th, on the ground of the London Hospital. Selections for the above

will be made at our own Club trial, of which details will be posted on the Clubs' Union notice-board in due course.

We shall be very pleased to see all newcomers who are interested in hockey. Will intending players get in touch with the Secretary as soon as possible, in order that no talent may escape notice.

J. S. W. DRYLAND,
Hon. Secretary.

Sailing Club

THIS Club is one of the original branches of the United Hospitals' Sailing Club, which was founded in 1925. For the man who has a love of the sea and who already knows the fascination of a small boat with a good breeze on the beam, the Club offers all the facilities for enjoyment. For the man who is as yet unfamiliar with sailing there is no better place in which to learn than Burnham. Anyone (whether expert or not) for whom life at Guy's means living in London will find in the Club one of the best and most refreshing ways of spending the week-ends.

The headquarters of the Club are at Burnham-on-Crouch in Essex, which is reached by train from Liverpool Street Station, or more pleasantly by car. There are eight 16-ft. one-design dinghies, each belonging to a different hospital, and an 18-ft. half-decker.

Each year a series of races is sailed for points, a Cup being awarded to the winning hospital. There are also cups for single-handed sailing, a team race, and for the log of the best cruise of the year. Apart from racing, the boats are used for week-end sailing, and can be booked in advance for this purpose.

Members can be elected to affiliated membership of the Royal Corinthian Yacht Club at Burnham, through whom endless opportunities for sailing in all types of craft are available.

A note of this year's activities appeared in the last issue of the *Gazette*.

Anyone who is interested can obtain fuller particulars from the Secretary.

R. A. ANDREWS,
Hon. Secretary.

Golfing Society

LAST year the Hospital succeeded in reaching the semi-final round of the Inter-Hospital Cup, when they were defeated after a replay by St. Thomas's. The Golfing Society has probably never before had so much good material from which to draw the Hospital side; hopes are indeed rosy for winning the Inter-Hospital Challenge Cup for the first time. Apart from these games, matches are played against several of the clubs in the south of London.

Frequent handicap competitions are held at one of the affiliated clubs. The most important of these is the President's Prize, presented by Dr. Cameron, which is played in November over 36 holes. There is also a handicap knock-out competition for the Staff Cup played off during the summer months. The affiliated courses are Sidcup, Addington Palace, Foxgrove, West Kent and West Hill. The principal of these is Sidcup Golf Club, which is within easy reach of the Hospital, 20 minutes by train from London Bridge and three minutes' walk from Sidcup Station. A cheap return fare is issued at 1*s.* 6*d.*

The green fee at all of the affiliated courses is 2*s.* 6*d.* on week-days and 5*s.* at week-ends. Any member not possessing a handicap may obtain one by sending three cards to the Hon. Secretary.

B. J. DORAN,
Hon. Secretary.

The Pavy Gymnasium

THE Pavy Gymnasium, built and maintained by the generosity of Dr. F. W. Pavy, is situated in the College and is open to any member of the Clubs' Union at any time. It is equipped for Boxing, Fencing and Gymnastics, and is the headquarters of those clubs. An efficient heating apparatus has recently been installed. There are showers and baths adjacent.

The respective clubs hold their meetings as follows :—

The Boxing Club has already started training for the season. Several attractive fixtures have been arranged, including one against the Oxford "A" team at Oxford on November 4th.

In order to maintain a good standard, however, new members are urgently required. The Club would welcome any newcomers to the Hospital, whether with or without previous experience, who are willing to come down to the Gym. and box.

Training takes place in the Pavy Gymnasium on Tuesday evenings at 5 o'clock. Further information may be obtained on application to D. H. Mackay, Hon. Secretary.

The Fencing Club meets twice weekly, on Wednesdays and Thursdays at 4.15 p.m., when two instructors are available. An Inter-Hospital Competition takes place once yearly, and many matches are fought against other clubs. Several 2nd Team matches have been arranged in order to provide interest for those whose experience is

limited. At the end of the season a Novices' Competition is held in Foil for those of one year's experience, or who have never represented the Hospital. The winner holds a very handsome cup for a year. It is hoped to inaugurate a Novices' Sabre Competition on the same lines, but up to the present there is no cup available.

The Gymnastic Club holds its meetings once a week on Fridays at 5 p.m. The class is taken by an instructor and exercises are carried out both with and without the help of the apparatus. Efforts have been made to arrange matches with other clubs, but so far they have not met with success. A Gymnastic Competition is held yearly. The apparatus is always available for practice. It is rather a forlorn hope to ask that those using it should put it away when they have finished.

Further details of the above clubs may be found on the notice boards in the Colonnade. A cordial welcome is extended to all new members, who are invited to turn up at the meetings, no matter whether they have had any previous experience or not.

R. F. PARFITT,
Hon. Sec., Pavy Gym.

Rifle Association

THE Rifle Club is one of which little is heard, probably owing to the fact that only one team of six is run during the season and the number of people interested is comparatively small. Nevertheless, the Club is a very active one, and in the last three years has succeeded in winning the United Hospitals' Challenge Cup and the Armitage Cup, both of which are competed for by teams belonging to the United Hospitals' Rifle Club.

Shooting begins in April and finishes in July, and targets are available at 200, 500 and 600 yards on Wednesday afternoons during these months for practice shoots.

The Club is affiliated to the Middleton Rifle Club, where meals (and drinks) may be obtained. Rifles are supplied by the Club and are kept with the armourer at Bisley.

A United Hospitals' and a Guy's Hospital prize meeting are held each year, when a good collection of valuable prizes is competed for.

Trains run frequently from Waterloo to Brookwood and special cheap fares are available for members at 3*s*.

It is hoped that anyone interested in shooting, whether new to the Hospital or not, will get in touch with the Secretary, who will be pleased to give them any further information.

D. W. HARVEY,
Hon. Secretary.

The Christian Union

THE Guy's Hospital Christian Union dates back to 1849, when, as the records state, "a teacher at Guy's and a lecturer at St. Thomas's (Drs. Habershon and Gladstone) became deeply anxious for the spiritual welfare of the students under their care, and determined to do what they could to promote it. A Bible Reading, which was shortly afterwards set on foot at Guy's, was the result. Some little time after this . . . Dr. Golding-Bird, assistant physician at Guy's, laid the matter to heart. . . . Two months later the Christian Medical Association was formally inaugurated. In October, 1855, its first general meeting was called."

The Union has continued ever since under various names, with a view "to establish, revive and maintain meetings for the study of God's Word and prayer at each London Hospital" (1874). Its activities are purposely few so that even the busiest can take part; those who wish to know more should come to the Annual General Meeting on Monday, October 16th (place and time later), or else see M. S. Spink (Wards) or K. R. D. Porter (Medical and Dental Schools).

J. R. S. BOOKLESS.

The Pupils Physical Society, 1933-34

Hon. President.—John Fawcett, M.D.

Hon. Vice-Presidents.—Sir William Hale-White, K.B.E., M.D.; Sir W. Arbuthnot Lane, Bart., C.B., M.D.; A. P. Beddard, M.D.

Presidents.—C. A. Clarke; J. C. Colbeck; C. H. Fagge; W. G. Gill; F. R. Kilpatrick; D. P. King; M. J. Lindsay; B. McArdle; W. L. Ogle; R. V. Payne; C. G. Pantin; A. G. Potts; I. G. Robin; S. H. Wass.

Hon. Secretaries.—W. J. Ferguson, F.R.C.S.; E. T. Conybeare, M.D.

THE Pupils' Physical Society of Guy's Hospital is an old and honoured institution. With some such trite tag as this countless secretaries have introduced the Society to the notice of new students entering the wards of Guy's

Hospital. Forty years ago, young men would present their papers to the Society with a similar remark, and add that they felt honoured to be allowed to read their papers before so learned a body. The odd thing is that what they said was true; honoured they were, and old and learned is the Society.

I have this evening been reading through the Minutes, as they are written down from 1885 onwards. By doing this I was impressed with the continuity of tradition which has existed through that time and doubtless from times still earlier. The Physical Society has a character of its own such as is only attained by the exercise of much thought and effort on the part of its officers, those who have shown cases and read papers.

In these Minutes are reflected the history of Medicine during the past 50 years, the changes which have taken place in medical training, even the changes in the mode of life of students and of Staff. Illuminating flashes fall from time to time on great characters of the past who exist for us as names only: Samuel Wilks, William Osler, Frederick Taylor, E. H. Starling—and most of those whose names figure to-day on the honorary and consulting staff stand out for a moment as having held office, read a paper, or taken part in a discussion of the Society. The scene changes, the names change, but throughout runs the thread of continuity.

In looking through the programmes of the Society, one is struck by the fact that from 1885 to 1888 a paper was read on eleven of the twelve occasions the Society met annually. In 1889 it was suggested that clinical meetings should be held more frequently—every third meeting. Those were spacious days, when members readily transferred their views to paper and flocked to hear each other talk. In those days, too, members of the Society paid five shillings subscription, and in 1888 the Minutes inform us that ninety of them did so, though I notice the secretaries' tick against the names of those who paid is sometimes absent.

It is of interest to compare the titles of papers read in the eighties with those of more modern times. "Empyema," by F. Heatherly, "Puerperal Eclampsia," by G. Rowell, "Diabetes," by H. J. Campbell, were subjects in the programme of 1886-87. Any of these might form the subject of a paper to-day, but how differently would they be treated. Occasionally a paper is read which throws some light on the prevailing subjects of medical interest at the time. "Hydrophobia" was the title of C. J. Whitby's paper in 1886, just a year after Pasteur had successfully treated his first case. "Diphtheria," by W. C. C. Pakes, was the subject of a paper read in 1894-5 at the very time when Roux and Behring were carrying out their pioneer work with the use of diphtheria antitoxin. In 1911 a discussion on "Bone-Setting" was opened by Mr. (now Sir) Arbuthnot Lane—the title reminds one of the revolutionary changes in bone-surgery that had a short while before been introduced by Mr. Lane himself.

Throughout the first half of the Minute Book are scattered letters from Sir Samuel Wilks, the honorary president for many years. In reading these letters one cannot fail to be impressed by the sincere love he had for all things connected with Guy's, and especially the Physical Society. In 1900 he replies to the then secretary, Mr. Bellingham-Smith, expressing his willingness to take the Chair at the opening meeting, but modestly suggests that a younger member of the Staff should be appointed in his place. "If anyone could give me a hint by saying that a change was desirable," he says, "I could send in my resignation." No hint was given, however. In 1907, in a further letter, he again suggests that a younger man be chosen and at the same time mildly reprimands the secretary for not having provided him with a paper of the proceedings to which he could refer, on the occasion of the opening meeting the previous year. The last reference to Sir Samuel is made on the occasion of the Conversazione with which the Society opened its session in October, 1910. This was a great occasion; the function was held in the new Medical School Buildings still uncompleted, and on this occasion many of the oldest members of the Staff who represented the past era in medicine met with those whom we now know as senior members. Thus Sir Samuel was in the Chair, "supported," as the *Gazette* report says, by Drs. Parry, Goodhart, Taylor and Savage, vice-presidents. Drs. Hale-White and Lauriston Shaw were still on the Staff, as was Sir Charters Symonds and all were present, and of those better known to us were Messrs. C. H. Fagge, Eason, Mollison, Bellingham Smith, Hopson, Dowsett and Aubrey.

Dr. Eyre showed some "very fine slides and a series of exhibits showing the various stages of the Wassermann reaction," and gave a "clear account of the meaning of the test and the method of carrying it out to an interested crowd." Dr. Price Jones showed a Burker's modification of the Thomas Zeiss Hæmocytometer, and Dr. Ryffel demonstrated "some clinical methods." On this occasion Sir Samuel Wilks brought down his diploma of qualification signed by Liston and others in 1847. Is it too late to hope that some member of the Staff, who still remembers the

earlier generation, their characters, their habits and idiosyncrasies, should read a paper to the Society about them, before they and the type of medicine they represented are forgotten? Sir Charters Symonds delivered an inaugural address in 1922 entitled, "Some Old Surgeons and their Writings," from Chesledon of St. Thomas's (1718-1738) to Henry Howse (1870-1902).

One other meeting should be mentioned as of special importance. This was held on October 21st, 1905; the Society was addressed by Sir William Osler, and was the first occasion on which he spoke in public in this country since his appointment to the Chair of Regius Professor of Medicine of Oxford. The subject of this address was the life and works of Sir Thomas Browne, born just three hundred years before.

These details throw some light on the Pupils' Physical Society in the past. It fills the same need now that it filled a hundred years ago when it was founded on its present basis. It offers an opportunity for those to whom Medicine (and the word is used in the comprehensive sense, which includes Surgery) is something more than a mere means of existence, for those who desire to know more than is necessary merely to get through examinations—in short, for those for whom Medicine is still an Art.

R. S. B. P.

1933. *Programme*, 1933-1934.

Thurs., Oct. 5	8 p.m. Clinical and Pathological Meeting. Chairman: Dr. Fawcett.
Thurs., Oct. 19	8.15 p.m. Paper by C. P. Blacker, Esq., M.D. "Sterilisation of the Unfit." Chairman: Mr. Colbeck.
Thurs., Nov. 9	8 p.m. At Guy's Hospital. Joint Meeting with Medical and Physical Society of St. Thomas's Hospital. Chairman: Mr. Robin.
Thurs., Nov. 23	8.15 p.m. Paper by Mr. Cope. "Toxæmia in Intestinal Obstruction." Chairman: Mr. Payne.
Thurs., Dec. 7	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Ogle.
1934.	
Thurs., Jan. 4	8 p.m. Paper by W. R. Spurrell, Esq., M.S., F.R.C.S. "Humoral Mechanisms." Chairman: Mr. Fagge.
Thurs., Jan. 18	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Wass.
Thurs., Feb. 8	8 p.m. Joint Meeting with Guy's Hospital Physiological Society. Paper by Mr. Clarkson. Subject to be arranged. Chairman: Mr. Lindsey.
Thurs., Feb. 15	8 p.m. At St. Thomas's Hospital. Joint Meeting with Medical and Physical Society of St. Thomas's Hospital. Chairman: Mr. Gill.
Thurs., Mar. 1	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Clarke.
Thurs., Mar. 15	8 p.m. Paper by Mr. King. "Purpura." Chairman: Mr. McArdle.
Thurs., Mar. 29	8 p.m. Clinical and Pathological Meeting. Chairman: Mr. Potts.
Thurs., April 12	8 p.m. Reading of Treasurer's Prize Essay. "The Diagnosis and Treatment of Staphylococcal Infections of Bone." Chairman: Mr. Kilpatrick.

Guy's Dental Society

THE Annual General Meeting of the Dental Society was held on Friday, May 26th, 1933 The following officers were elected for the session 1933-34:—

President.—A. Bulleid, Esq., M.R.C.S., L.R.C.P., L.D.S.

Vice-Presidents.—Messrs. R. Cutler, M.R.C.S., L.R.C.P., L.D.S.; F. N. Doubleday, M.R.C.S., L.R.C.P., L.D.S.; K. Hooper, L.D.S.; K. S. Keele, M.R.C.S., L.R.C.P., L.D.S.; H. L. Messenger, M.C., M.R.C.S., L.R.C.P., L.D.S.; R. E. Rix, M.R.C.S., L.R.C.P., L.D.S.; F. S. Warner, M.R.C.S., L.R.C.P., L.D.S.

Hon. Secretary.—K. L. Scott.

Hon. Treasurer.—H. Bradley-Watson.

Dental Correspondent.—K. E. J. Fletcher.

Committee.—

Any Year Representative	E. E. H. Sampson
4th Year Representative	D. A. G. Greensted
3rd Year Representative	A. G. Richmond
2nd Year Representative	D. W. Harvey
1st Year Representative	G. C. Wright

During the session 1932-33 the following papers were read:—

1. "The Need of Research," The Presidential Address, by F. S. Warner, Esq., M.R.C.S., L.R.C.P., L.D.S.

2. "Local Anæsthetics in Relation to Minor Oral Surgery," by Dr. J. J. Posner.

3. "Infection of the Antrum from Dental Causes," by R. A. Johnson, Esq.

4. "Dental Jurisprudence," by T. Helmer, Esq.

5. "Osteomyelitis of the Mandible," by W. C. Scoble, Esq.

6. "The L.D.S., R.C.S. (Eng.)," by H. M. Ching, Esq.

7. "The Dental Operating Room," by F. S. Copley, Esq.
8. "Death after Extraction," by M. A. Rushton, Esq., M.B., B.Ch., L.D.S.
9. "Dental After-Pain," by J. A. C. Hindle, Esq.
10. "The Masticatory Face," by B. G. F Turner, Esq.
11. "Some Physico-Chemical Aspects of Local Anæsthetics," by E. Matthews, Esq., Ph.D., B.Sc., L.D.S.
12. "Practice Organisation," by F. N. Doubleday, Esq., M.R.C.S., L.R.C.P., L.D.S.
13. "Some Notes on Dental Radiographic Technique," by Miss Dorothy Marsh.
14. "The History and Development of Dentistry," by D. Robertson-Ritchie, Esq.

In addition, there were the following Casual Communications :—

1. "A Case of Residual Infection," by K. E. Lawrence, Esq.
2. "The Ætiology of a Family History of Pyorrhœa," by J. G. Spiller, Esq.
3. "A Case of Uneruption," by C. I. Hagger, Esq.
4. "Two Cases of Gemination," by R. A. Johnson, Esq.

The 34th Annual Dinner was held at the Trocadero Restaurant on Saturday, February 25th, 1933. There were 361 members and guests present.

The first meeting of the Dental Society will be held on Monday, October 2nd, when the Presidential Address will be given, followed by a Casual Communication. All new members are cordially invited.

Anybody who has material which he thinks would be of interest to the Dental Society, please communicate with the Hon Secretary, K. L. Scott.

K. E. J. F.

The Debating Society

THE Society was revived last year after a long lapse in its activities, and, under the presidency of Dr. Ryle, had a successful season. It is hoped that interest will be maintained during the coming season and that the attendances will be still greater. To this end the committee has decided that some meetings shall be held at 5.15 instead of the customary 8 o'clock, in order that those in their pre-Clinical years will find it more convenient to attend.

As a constituent of the Clubs' Union, all members of the latter body are automatically members of the Society. Meetings are held once a month in the "Spit," and at the evening meetings coffee and biscuits are provided.

The first meeting of the Society was held on Thursday, October 5th, when Dr. Blacker, seconded by Dr. Ryle, proposed the motion that "This House views with concern the spread of Fascism in Europe." A full account of this meeting will be published in a subsequent issue of the *Gazette*.

Further subjects for discussion will include the following :—

"That mechanical advance is incompatible with progress in civilisation."

"That the present Voluntary Hospitals should be maintained at the expense of the State."

"That this House deplores the Art of Epstein."

In addition, a Ladies' Night will be arranged, to which a popular outside speaker has been invited.

The Physiological Society

THE Physiological Society was founded in 1901 by Professor Pembrey, essentially as a students' society.

Meetings take place fortnightly during the Winter and Spring Terms, at which papers on physiological subjects are read by its members. Each paper is followed by a discussion. The meetings are preceded by tea in the Experimental Physiological Laboratory at 4.15 p.m.

The term "physiology" is employed in its widest sense to embrace much of its parent science, biology, and to include those social applications which are of such considerable importance to-day. Thus the first-year man, as well as those studying physiology, will find much to interest—and to amuse—since, to a great extent, the papers and the discussions centre on general principles rather than on the finer points of physiological research.

The introduction of theology into the papers and the discussions is forbidden by the rules of the Society, and political questions are avoided.

Combined meetings are held during the year with the Physical Society and with University College Physiological Society, the latter usually taking the form of a debate.

The President's Prize is awarded annually to the author of the best paper of the year.

Guy's Hospital Chapel

THE Chapel at Guy's certainly does not thrust itself ostentatiously upon the notice of the newcomer, but it exists nevertheless. Those who boldly open the door under the clock in the front square will find it. It is embedded in Matron's House, which flanks it on either side and covers the roof as well. It is square, without an apse, and with galleries round three sides, being technically described, we believe, as a "drawing-room Chapel of the Georgian Period." An impression of a sort of apse, indeed, has been artificially and undesignedly created by the erection of an organ in one corner and a vestry in the other. This has the disadvantage of partially obscuring the design of the Colonnade, which was clearly intended to be a feature of the building. It is possible that these encroachments will be removed in the execution of a scheme of redecoration and improvement which is afoot. The stained glass windows commemorate William Hunt, the founder of the Medical Wards. The mosaics and panels are a memorial to all those who have died in the Medical Service of the Hospital since 1867.

Various others are recalled by brasses in various parts of the Chapel and in the Lobby. The most interesting of these are those of W. E. Gladstone, a Governor for 63 years, Sir Astley Cooper and Sir William Gull. But the best known feature of our little Chapel is the really noteworthy monument to our Founder, Thomas Guy, which faces the altar. Here is Guy in Court dress of the period relieving a suffering man, while in the background is to be seen an actual model of the Quadrangle and Colonnade Steps outside, with porters engaged in stretcher bearing. The inscription on the monument is well worth studying as a good example of the somewhat florid testimonials which characterised such literature in the eighteenth century, and as a record of certain facts apt to be forgotten.

An extensive crypt contains the Founder's tomb, for the remains of Thomas Guy were translated across the street from their original resting place beneath St. Thomas's, where they lay from 1725 to 1780. Among the other tombs in the crypt are those of William Hunt, Sir Astley Cooper and certain Governors, Surgeons and Physicians of bygone days. Of those who served the Chapel the greatest name is that of Frederick Denison Maurice, Chaplain 1836-46, portraits of whom will be found in the Lobby. A list of the services in the Chapel will also be found there, and the Chaplain is always glad to supply further information. Needless to say, the Chapel and its Services are always open to all members of the Hospital and Schools.

Officers Training Corps

HERE at Guy's we have a branch of the University of London O.T.C. (Senior Division), for No. 2 Company of the Medical Unit of this contingent consists of medical and dental students from Guy's and St. Thomas's Hospitals.

The whole contingent is close upon 1,000 strong, for it includes Artillery, Sound-Ranging and Survey, Engineer and Infantry as well as Medical Units, and the members of the former units are students at other colleges and institutions of the University.

The Medical Unit is formed of students of the various hospitals, is 250 strong, and divided into four companies, the two companies of two Field Ambulances respectively.

Firstly it should be clearly indicated that the training of the Senior Division O.T.C. differs totally from that in the Junion Division. Officers' pattern clothing is worn, and the work is intended to render the officer cadet capable of fulfilling competently the post of a commissioned officer in Regular, Territorial or Reserve Army in time of peace, war or national emergency. It is quite certain, however, that the knowledge obtained as a medical cadet is frequently of inestimable value to a civilian medico in general practice, particularly when required to train the personnel of Red Cross and similar voluntary aid societies, members of the police force in First Aid and bandaging duties, and other such bodies.

It is worthy of note that membership of this body constitutes almost the sole mode of liaison in student life between the hospitals and other constituent institutions of the University, and in this way the student obtains a foresight into the work of the other branches and makes friends who, in later life, will work in widely different spheres.

To reach more detailed facts, membership of our O.T.C. entails attendance in mufti at a certain number of lectures given in term-time at the Hospital, and presence for at least ten days at Annual Camp, which is held during the last

complete fortnight of July, always at a seaside resort, usually Eastbourne, Folkestone or other South Coast town. It is probable that in 1934 we shall go to the Isle of Wight.

A camp over Whitsun week-end, attendance at which is voluntary for members of the Medical Unit, is held at Princes Risborough, Bucks., adjoining the Prime Minister's residence, Chequers, on property belonging to the O.T.C.

Friendly rifle-shooting competitions are usually held, and, although this is the only acquaintance the Medical has with a rifle, for officially he is unarmed, the Unit shows up very well, frequently beating the Officers, the Permanent Staff and other Unit teams.

A Field Day is held in March each year, and in most years a Guard of Honour is mounted on a member of the Royal Family.

The only expense entailed is the purchase of brown shirt, collar and ties, and a stout pair of brown boots; all uniform is provided free, and travelling to and maintenance at Annual Camp is paid for by the O.T.C., so that a remarkably inexpensive holiday in suitable surroundings is offered to anyone keen on an open-air life. In return we expect each member to put his whole weight into the work, which in itself is full of interest, during the short hours allotted for that purpose, and then, with the uniform, all responsibility may be cast aside and each man is free to enjoy himself as he wishes for the rest of the day, for there are no restrictions as to time of return to camp, etc.

To those who contemplate entering one of the Services upon qualification invaluable advantages are offered, including six months seniority, and early application for membership is advisable.

Shortly a descriptive booklet will be sent to all newcomers to Guy's, but in the meantime further information and forms of application may be obtained from D. J. Wigginton, in the Dental Department; D. Graham-Brown, in the Wards; and from the writer any morning in the Conservation Room of the Dental Department.

All keen men will be heartily welcomed.

H. H. KENSHOLE,
Capt., R.A.M.C. (T.A.).

Correspondence

Words and Phrases

To the Editor of the GAZETTE

SIR,—As a former *Gazette* editor I can appreciate your joy at the correspondence which Mr. Layton's observations on similes has brought about—a correspondence particularly valuable during the holiday season.

I can also see Mr. Layton rubbing his hands together and chuckling, for he still chuckles when I abuse him, just as he did when I first taught him anatomy thirty years ago.

His plea for clearness and accuracy of diction loses some of its force when he confuses "cavilling" with "quibbling." I agree "Freddie" did quibble, but even if it was at times overdone, it was well meant, and undoubtedly made us wonder whether we had used words in their proper sense.

One correspondent suggests that Dr. Taylor was not a popular choice for the first three months' medical ward clerk—this was not true about 1894-95, when it was a common opinion that he taught elementary medicine better than any other physician. Such an opinion and the choice of a teacher depends so much on what the pupil needs. I remember applying for Dr. Goodhart—to the surprise of some; he was the teacher I needed, and even now I can recall "pearls of wisdom," though we had to drag them from him, often on the landing between Mary and Philip. I have always given credit to him for a certain gold medal (London M.B., 1897).

As suggested by one of your correspondents, Dr. Pye Smith could at times give Dr. Taylor points in the length of his dissertations on words. I recall one hot June afternoon meeting "Bill" Harnett in the Colonnade, and we decided to go round with "Pye"—so to Philip we went. Harnett, who had been Pye-Smith's clerk, was greeted with, "Good afternoon, Mr. Harnett; what do you make of this case?" and Harnett, knowing Pye's dislike of the word, replied that he thought the patient "was of the tuberculous *diathesis*." Then Pye-Smith started, and as he warmed to his work—demanding from his clerks the derivation of the word and its meaning—Harnett and I slowly edged our way out of the crowd and repaired to the College for tea, where the Pye-Smith firm later found Harnett and cursed him roundly for letting them in for an extra long round.

I have not unnaturally been for years interested in the factors which make men apply for a particular member of the Staff, and have always concluded that most of us had our turn—it was largely a question of fashion. But very small points of a quite unexpected nature often were decisive.

I remember having a very charming, good-looking and intelligent ward clerk (will not all my old ward clerks take this as personal ?), and I was pleased when he became my Assistant Surgeon's dresser, and was more than flattered when he became my Assistant House-Surgeon. Of this appreciation I told him at our first meeting, and he replied that he had always enjoyed working with, and had learned so much from, the Sister Lazarus of that day that he had decided to work as much as possible in that ward ! Those who remember Sister Ripley will confirm his judgment.

A propos of another matter on the same page as Mr. Layton's letter is a list of newly elected House-Officers ; can anyone recall an instance when both House-Physicians and both House-Surgeons elected at one time have been sons of old Guy's men ?

Yours, etc.,

C. H. FAGGE.

3, Devonshire Place,
Portland Place, W.

The Nurse's Lot

To the Editor of the GAZETTE

SIR,—As a probationer at Guy's who has read with amusement the first paragraph of the most recent " Passim," I am delighted to give my views upon the happiness and moral welfare of nurses in training.

As a whole, I do not feel that we are in need of " heart-rending pity," but am quite positive that certain members of the nursing staff need this, and more, these being the poor unfortunates who plunge into a hospital training having no knowledge of what hospital discipline may mean. Some of them make no further attempt to endure it after two or three weeks in the wards, and return to the bosoms of their families ; others are tempted to stay on a little longer, faced with the uncomfortable alternative of returning home and having " I told you so " thrust at them on all sides from friends and relations.

Miss Ashdown says that a nurse must possess :—

" 1. A real love of attending the sick and helpless.

" 2. A strong constitution.

" 3. An equable temperament."

I think an important addition should be, " An ability to withstand the taunts, gibes and naggings of her seniors during her first few months in hospital. Were this always so, surely the not unfamiliar sight of the junior probationer weeping silently in the bathroom or linen cupboard would not be so frequent an occurrence.

I do not agree that the nurse's lot is a totally unhappy one, but I cannot see how she can be contented if she is a very sensitive person, unused to seemingly unjust correction and scolding.

The academic side may certainly claim to be arduous, and certainly it does not seem worth while when one witnesses the surprise that transforms the house-officer's face when the nurse shows any gleam of intelligence at anything on a higher plane that bed-pans or lysol pots.

Then there is the statement that " nursing is a hang-over from the old convent days, when the extra daughters of England's aristocrat families, who knew they had no chance of making a suitable marriage, sought seclusion and took up good works." Surely no would-be nurse would choose Guy's if she wished to retire in seclusion. I have even heard lately that, amongst lay people, Guy's is said to be " the finest matrimonial market in London ! "

As regards the " whippersnappers," I am sure that they are quite capable of defending themselves, but I would like to add that it is not only once that I have witnessed a blood transfusion that would indeed have been a fiasco had it not been for the kindly and tactful intervention of the sister-in-charge.

Yours, etc.,

PROBATIONER.

Guy's Hospital,
S.E.1.

To the Editor of the GAZETTE

SIR,—May I take this opportunity of making a few remarks on Nursing and Nurses, *apropos* of the hysterical outburst in a recent " penny paper " which made such nauseous reading. That minority of the public which knows not the medical or nursing profession may pity the poor creatures ; the more intelligent of the rest, we hope, will take the article for what it is.

There is, we know, room for improvement in one or two branches of nursing, though hospital life, in general, is a fair proposition for the keen nurse, especially if she is sufficiently enterprising enough to keep up her outside interests. The pay and off-duty time leave much to be desired, and the tiresome little rules and regulations, though probably very good for the morale, are distinctly wearing sometimes ; nevertheless, they do not call for martyrdom.

It is my opinion that the writer of the said article has gleaned his information from a type in the profession which, although still prevalent, shows hopeful signs of becoming extinct. This type of

nurse one may come across in private nursing; she is anything between 35 and 55, with no further ambition than to be comfortably engaged to watch poor dear old Mr. Smith does not fall out of bed, or to comfort Miss Bones, who is feeling lonely and arthritic, in the hope that one fine morning a fat legacy will arrive on the doorstep and she is safe for the rest of her life.

Apprehension of the future becomes a cankerous growth with some people, which blots out all thought of the interesting things they could be doing in the present. This same person, when called upon to assist at an operation, deal with a severe angina pectoris or broncho-pneumonia, is inclined to domineer the household, upset the domestic staff, and, whilst making a general fuss, prove herself thoroughly inefficient. This kind of thing having only twice been my experience may be unique and unimportant, but I feel that such are the people who grumble and bemoan their lot and, perhaps, supply a little bogus information to the eager journalist.

In 18 months of private nursing I have been lucky enough to get an excellent variety of work and much useful experience in town and country. I have also worked with and followed after several Guy's nurses; their high standard of efficiency is invariably praised and much appreciated by both patients and doctors.

Yours, etc.,

MARY NETTLESHIP WHITE.

35, Alfred Place,
S.W.7.

The Right Application of Knowledge

To the Editor of the GAZETTE

SIR,—It is with regret that one reads the reply of "B. Acidophilus" in support of the present-day civilised diet. To go in the opposite direction from what one knows is right would appear the height of foolishness; yet, although he knows the preventive treatment, "B. Acidophilus" would wait until he has succumbed to the disease rather than take any measures to prevent it.

Not only does an unsuitable diet consisting of a preponderance of refined carbohydrate material produce caries, which *can* be treated, but it is one of the most potent factors in the causation of chronic disease of the gums. The latter are directly detrimental to the general health by the constant absorption of toxins into the blood, and ultimately result in complete loss of the teeth at a comparatively early age. I would recommend to "B. Acidophilus" the study of the ætiology of pyorrhœa, which subject has evidently escaped his memory—or, maybe, he has not yet come across this scourge of civilisation at the present stage of his dental career.

One can only hope that his letter was written in ignorance of these facts; otherwise, one is inclined to feel that the name "Bacillus" is very appropriate.

Yours, etc.,

"PROPHYLAXIS."

Guy's Hospital,
S.E.1.

Guy's Hospital Biennial Dinner

FRIDAY, OCTOBER 20TH, 1933

FIRST LIST OF ACCEPTANCES UP TO THE TIME OF GOING TO PRESS

1873 Nash, W. G.
1874 James, Col. Culver.
1876 Oram, R. R. W.
1879 Hale-White, Sir Wm.
Howell, T. A. J.
1884 Counsell, H. E.
1888 Black, G.
1890 Fawcett, John.
Pilcher, Major-Gen. E. M.
1891 Craig, Sir Maurice.
Hopson, M. F.
Jewell, J. W. F.
1893 Eyre, John.
1894 Collier, H. W.
Fagge, R. H.
1895 Clarke, A. V.
Fry, A. C.
1896 Hovenden, A. C.
Hovenden, G. S.
Howe, A. F. A.
Milbank-Smith, H. J. M.
1896 Ormond, A. W.
Proctor-Sims, F. R.
Rowlands, R. P.
Spicer, A. H.
1897 East, W. Norwood.
Way, Montague.
1898 Alexander, K. B.
Eason, H. L.
Fagge, C. H.
Turner, Philip.
1899 Ingram, P. C. P.
Payne, J. L.
Ruzzak, Lt.-Col. S. A.
1900 Brydone, J. M.
Camps, P. W.
Clarke, Edward.
French, Herbert
Goble, E. W.
Moss, B. W.
Parrott, Hugh McD.
Secretan, W. B.
1901 Atkins, Sir John
Bent, S. C. H.
Buchan, G. F.
O'Neill, B. P.
1901 Robinson, J. F.
Tillbury, R.
1902 Griffin, E. H.
1903 Greeves, R. A.
Mann, H. C. Corry.
1904 Hughes, E. C.
Hurst, A. H.
May, W. Norman.
Mollison, W. M.
Palmer, F. W. Morton.
Stevenson, C. M.
Ticehurst, G. A.
1905 McBride, John.
1906 Bankart, A. Blundell.
Bookless, J. S.
Flower, Norman.
Goodhart, G. N.

1906 Johnston, T. B.
Litchfield, P. C.
Malleson, H. C.
Palmer, A. S. Morton.
Payne, O. V.
Ripman, C. H.
Zorab, Arthur.
1907 Densham, A. T.
Hinde, E. B.
Jones, C. E. M.
1908 Doubleday, F. N.
Mandel, Leopold.
Price, P. Seymour.
1909 Johnston, J. L.
Lucey, H. C.
Mitchell, Douglas A.
1910 Elliott, Lionel.
Gardiner, H.
Harrison, K.
Marshall, Geoffrey.
Pedrick, Vivian.
Penny, E. A.
Poulton, E. P.
1911 Cook, Frank.
Genge-Andrews, G. E.
1912 Hoby, H. J.
Jepson, A. C.
Keith, T. Skene.
Oram, Richard G.
1912 Meadows-Ryley, C.
Reynell, W. R.
Slesinger, E. G.
Stewart, J. L.
Smyth, W. J. Dobson.
Wigley, W. E. S.
Zamora, A. M.
1913 Eccles, G. S.
Lane-Roberts, C.
Mather, Horace.
Morgan, O. Gayer.
Ryle, John.
Scott, E. D.
Tanner, W. E.
1914 Bull, F. Bocquet.
Lambrinudi, C.
1914 MacManus, Desmond.
Messenger, H. L.
Sharpe, H.
Starling, E. C. W.
1915 Attwater, Geoffrey.
Curle, Reginald.
Kendall, N. E.
Medlock, C. H.
Sells, Ronald.
Symonds, C. P.
1916 Braine, J. F. Carter.
Heckles, G. W.
Jones, James Gaymer.
Kidman, G. E.
Wacher, H. Stewart.
1917 Bulleid, Arthur.
Caldecott, Francis.
Conybeare, J. J.
Woodruff, K. M.
1919 Braithwaite, J. V. C.
Bonar, T. G. D.
Dowling, G. B.
Forty, Alan.
Sawday, A. E.
1920 Canning, H. G. R.
Kendall, John.
Massie, Grant.
1921 Doherty, W. D.
Douthwaite, A. H.
Farmer, F. J.
Greatrix, F. Darwin.
Hemmings, L. G.
Hodgkinson, R. J.
Shelswell, A. H.
Watson, L. K.
1922 Carson, C. O.
Hale-White, R.
Howitt, Frank.
Moore, B. R.
Scholefield, B. G.
Stoker, G. M.
Williams, P. H.
1923 Atkinson, C. Hewitt.
Berry, D. H.
Fawkes, R. B.
1923 Farris, Cyril D.
Gibberd, G. F.
Mitchell, G. O.
Moffatt, P. McGregor.
Powell, A. T. W.
Vaughan, Donald.
Witts, L. J.
1924 Harries, Ivor E.
Houghton, L. Wynn.
1925 Collier, H. N.
Grove, W. S.
Jago, Maurice E. M.
Kingsbury, J. G.
Landon, G. S.
Warner, E. C.
Whimster, W. S.
Worthington, Charles L.
1926 Anderson, Capt. J. H.
Blacker, C. P.
Browning, S. B.
Grasby, E. D.
Jarman, Ronald.
Martin, J. N.
Post, H. W. A.
Trick, S. R.
1927 Brock, R. C.
Garland, T. O.
Hudson, W. F.
Plowright, O.
1928 Blaikley, J. B.
Camps, F. E.
Jones, W. D. G.
1929 Ferguson, W. J.
Malone, C. D.
Morris, I. B.
Smallshaw, D. B.
1930 Krusin, Frank S.
Robertson, J. Murray.
Simpson, C. Keith.
Stevenson, F. Harwood.
1931 Berkley, E. A. R.
Clarke, A. Ruscoe.
Milligan, H.
1932 Payne, O. V.

PROGRAMME OF DEMONSTRATIONS FOR POST-GRADUATES,

October 20th and 21st, 1933.

Friday, October 20th

11.0—11.30, Dr. E. P. Poulton—Demonstration of Oxygen Tent (Stephen Ward).

11.30—12.30, Dr. A. H. Douthwaite—Lecture Demonstration on the Treatment of Various Common Maladies.

11.30—12.30, Mr. W. D. Doherty—Injection Treatment of Hæmorrhoids and Minor Surgical Conditions of the Anal Canal (Clinical Theatre).

2.0 p.m., Dr. A. F. Hurst, Dr. G. Marshall, Dr. L. J. Witts, Dr. C. P. Symonds—Demonstration of Medical Cases (Mary Ward).

2.0 p.m., Surgeons and Assistant Surgeons—Operations in the Theatres (Surgical Block).

4.0—5.0 p.m., Tea in the Medical School Committee Room.

Saturday, October 21st

10.30 a.m., Dr. H. W. Barber and Dr. L. Forman—Demonstration of Skin Cases.

10.30 a.m., Mr. C. Lambrinudi—Demonstration of Orthopædic Cases.

10.30 a.m., Mr. E. G. Slesinger—Surgery of the Thyroid.

11.30 a.m., Dr. G. Marshall and Dr. E. R. Boland—Demonstration of Pneumothorax Treatment.

11.30 a.m., Mr. W. H. Ogilvie—Local Anæsthesia in Abdominal Surgery (illustrated by a cinema film).

Medallists and Prizemen, 1932-33

MEDICAL SCHOOL

Open Junior Science Scholarship (£100)—Arthur Edwin Loden.

Confined Junior Science Scholarship (£100)—Sangad Garnjana-Goonchorn, John Ralph Miles, bracketted equal.

Open Scholarship in Arts (£100)—William Anthony de Castro Shearman, William Frederick Jayne Weston, bracketted equal.

War Memorial Scholarship in Arts (£200)—Robert Victor Coxon.

Epsom Scholarship (entitling the holder to free Medical education)—Richard Olyffe Yerbury.

Junior Proficiency Prizes—Hugh Rodborough Swanzy Harley, Gordon Neville Wright, bracketted equal, £17 10*s*. each; Christopher Sydney Darke, Eric Sayle, bracketted equal, £5 each.

The Hilton Prize for Dissections—Gerald Dalton Channell, price; Lewis Charles Thomson, certificate.

The Michael Harris Prize for Anatomy (£10)—Hugh Rodborough Swanzy Harley, Gordon Neville Wright, bracketted equal.

The Wooldridge Memorial Prize in Physiology (£10)—Eric Sayle, prize; Christopher Sydney Darke, Douglas Francis Freebody, Hugh Rodborough Swanzy Harley, Gordon Neville Wright, certificates.

The Golding-Bird Gold Medal and Scholarship in Bacteriology (£20)—Frank Ieuan Evans, medal and scholarship; Martin Samuel Spink, certificate

The Beaney Prize for Pathology (£34)—Charles Guy Pantin.

The Treasurer's Medal and Prize for Clinical Medicine—Ian Gibson Robin.

The Treasurer's Medal and Prize for Clinical Surgery—Ian Gibson Robin; Gerald Vincent Walshe Doherty, Martin Samuel Spink, Gavin Leonard Bourdas Thurston, certificates.

University Entrance Scholarships—
War Memorial Scholarship (£100)—Davis Francis Gattey Moir.
Exhibition (£60)—Patrick Wensley Clarkson.

Charles Oldham Prize in Ophthalmology—Geoffrey Bruce Ebbage, prize (£30); Ian Gibson Robin, prize (£30).

DENTAL SCHOOL

Open Junior Science Scholarship (£160)—Eric Henry Cooper.

Epsom Scholarship (entitling the holder to free Dental education)—Alan Walton.

Second Year's Prize in Dental Subjects (£10)—Norman Arthur Hawkins.

Final Year's Prize in Dental Subjects (£10)—Cyril Ingram Hagger, Douglas Hugh Thomas Mackirdy Robertson-Ritchie, Edward Harrison Musgrove, bracketted equal.

Newland-Pedley Medal and Prize for Operative Dentistry—Cyril Ingram Hagger, medal and prize; Edgar Sydney Venning, certificate.

Senior Prize in General Subjects (£10)—Edgar Sydney Venning.

Sport

Rugby

Guy's v. Plymouth Albion

A MOST interesting and exciting game was seen at Honor Oak Park on Saturday, September 30th, when the Hospital gained a well-deserved victory by a placed goal and a try (8 points) to a placed goal (5 points).

Their success was all the more meritorious for they were a man short for three-quarters of the game. P. D. M. Lynch was assisted from the field suffering from severe concussion, and A. R. Clarke was taken out of the pack to fill the vacancy on the wing. However, the Guy's forwards, who were opposed to a much heavier pack, came through the ordeal wonderfully well, and packing 3—4 they obtained the ball in the set-scrums just as much as their opponents, whilst in the loose nobody worked harder than Hale-Monro and Hogbin.

The Hospital back division were in exceptionally good form, and Giesen and Wright were a continual source of menace to the visitors. The tackling on both sides was of the highest order,

and, but for the brilliance of Rowe at full-back for the Albion, Guy's would have won by a greater margin.

From the kick-off Plymouth made ground to the Hospital's 25, when Giesen sent them back with a beautiful kick to touch. A minute later he created a fine opening for Alexander, but unluckily the latter knocked on when he had a clear run in. Guy's kept up the pressure, and, after Wright had made a gallant attempt to cross, Giesen made two good efforts to drop a goal.

Play was suddenly transferred to the other end of the field, when Rowe started a movement in his own 25, which Webber and Gormley carried on to within a few yards of the Hospital's goal-line, when Hogbin appeared from nowhere and brought down Gormley with a glorious tackle, and saved a certain try. During this movement Lynch was hurt, and took no further part in the game.

Almost immediately Guy's scored the first try, when a combined movement between Giesen, Clarke and Alexander carried play to the other end, and Alexander cross-kicked perfectly to Heberlein, who simply had to touch down, but Hogbin's kick at goal just failed

A little later the Albion took the lead, when Rowe accepted a penalty kick, set his threes in motion, and Nicholas worked his way through to score near the posts, Sparks converting.

Within a minute Guy's scored a magnificent try. From the kick-off a scrum was formed near the visitors' 25, and Lindsay drew the defence before passing to Alexander, the latter raced to within a yard or two of the line before passing out to Wright, who flashed over for a try, which Hogbin converted.

Early in the second half Alexander intercepted and made a great run before he was brought down well inside the Albion's 25. Guy's continued to attack, and should have scored from a penalty, but the kick was short and Rowe made a lot of ground before finding touch well down the field.

Both Giesen and Alexander made excellent attempts to cut through, but the Plymouth defence were equal to all demands and their tackling was deadly.

Wright had an excellent chance soon after, when he worked his way to the Albion's line, but failed to observe that Clarke had come inside.

Plymouth made a brief raid and Guy's touched down. From the kick-off Hale-Monro and Darke made a splendid effort and dribbled the ball for half the length of the field. The Hospital continued to play superior football, and they came within an ace of scoring on several occasions. However, Rowe, Gormley and Webber continued to be the stumbling-blocks, and prevented Guy's from increasing their lead.

Team.—F. H. Weston; P. C. Alexander, C. G Wright, M. J. Lindsey, P. D. M. Lynch; J. E. Giesen (Capt.), V. H. Bowles; P. H. Crampton, A. G. Heberlein, C. S. Darke, R. J. Drummond, I. G. Robin, R. A. P. Hogbin, A. R. Clarke, T. A. Hale-Monro.

Association

Guy's v. Banstead

ON September 27th Guy's visited Banstead, and for the first time since this fixture has been in existence gained a victory by the only goal of the match.

The XI, which was practically the same as last year, soon settled down and attacked repeatedly on both wings, but the shooting was very erratic and scoring chances were thrown away. The home team then attacked for a short period, but Clough cleared and from the resulting attack Groom scored.

The heat now began to tell on the teams and the pace slackened somewhat, although Guy's were still the quicker side on the ball, and if only the shooting had been better the lead would have been increased. Banstead made a last-minute rush to equalise, but the defence held out.

Result.—Won, 1—0

Team.—F. J. Stoneham; D. A. Priestley, R. J. Hayton-Williams; R. V. Henderson, S. E. Osborne, G. M. Johnson; H. Jones-Lewis, E. R. Brown, W. A. Groom, G. C. Sprigings, R. W. Harvey.

Guy's v. Old Cholmelians

ON Saturday, October 7th, at New Barnet, Guy's defeated the Old Cholmelians by 7 goals to 2, thus retaining their unbeaten record.

Guy's were quickly off the mark and attacked on the left. Play was transferred to the right wing and from a cross-pass Rees netted with a low shot. The home team ran into the attack and equalised five minutes later. This, incidentally, was the first goal scored against us this season in five matches.

An Old Cholmelian attack was broken up and Priestley sent Rees away with a long pass, and the inside gave the goalkeeper no chance with a well-judged shot. A few minutes later, however, the Old Cholmelians equalised with a very lucky goal.

Play was confined to mid-field with both defences playing well. Harvey then broke away on the right, and from his centre Rees completed his hat-trick.

After the interval play was more in the homesters' half, with Guy's attacking on both wings. In a breakaway, Henderson stopped a dangerous movement, and from the resulting attack Groom scored the fourth goal for Guy's. Osborne then, with a wonderful drive from 30 yards out, added a fifth, and Groom finished off a good match by completing his hat-trick.

The game was by no means as one-sided as the score suggests, but the opposing backs were apt to falter under pressure.

Result.—Won, 7—2.

Team.—F. J. Stoneham; D. A. Priestley, G. M. Johnson; R. V. Henderson, S. E. Osborne, A. N. Marley; H. Jones-Lewis, G. G. Rees, W. A. Groom, G. C. Sprigings, R. W. Harvey.

Entry of Students, October, 1933

Medical

Name	*Year*	*School or College*
Alban-Jones, D. J. A.	3rd Year	University College, Cardiff.
Alhadeff, B.	1st M.B.	Prince Edward's School, Salisbury, Rhodesia.
Beadnell, H. M. S.	3rd Year	Taunton School and University College, Cardiff.
Beynon, V. H.	2nd Year	Llanelly County School.
Blachford, R. D.	2nd Year	Haileybury College.
Bough, G. C.	1st M.B.	Wrexham County School and Liverpool University.
Brinton, W. D.	4th Year	Eton and New College, Oxford.
Brown, D. A. G.	1st M. B.	Denstone College.
Budd, W. E. R.	Pre-medical	Bedford School.
Chapman, D. I.	Pre-medical	Whitgift School.
Clark, D. S.	1st M.B.	Felsted School.
Clarke, P. S.	1st M.B.	Cheltenham College.
Coke-Harvey, R. E. M.	Pre-medical	Eton.
Collyer, G. B.	2nd Year	Eastbourne College.
Cook, C. A.	1st M.B.	St. Edward's, Oxford.
Crone, J. S.	1st M.B.	Forest School, Snaresbrook.
Davies, M. E.	1st M.B.	Pontardawe School.
Davies, T. T.	2nd Year	Towyn County School.
Dyke, W. R.	1st M.B.	Epsom College.
Edgson, J. R.	Pre-medical	St. Dunstan's College, Catford.
Elliott, J. R.	Pre-medical	Heanor School, Nottingham.
Evans, M. L. H.	1st M.B.	King's School, Canterbury.
Evans, R. H.	1st M.B.	King's School, Canterbury.
Green, O. I.	3rd Year	Brasenose College, Oxford.
Greenstreet, P.	1st M.B.	Oakham School, Rutland.
Greenwood, W. E.	1st M.B.	Colne Grammar School.
Griffin, B. P.	1st M.B.	Blundell's School, Tiverton.
Halliday, J. H. G.	1st M.B.	St. Paul's.
Hamilton, D. A.	1st M.B.	St. John's College, Johannesburg.
Howard, W. J. T.	1st M.B.	Owen's School, E.C.
Ibbotson, C.	1st M.B.	Haverford School, Pa., U.S.A.
Imray, M. A.	2nd Year	St. Anselm's, Croydon, and Wrekin College.
Jones, D. V.	Pre-medical	Westminster City School.
Jones, J. A.	1st M.B.	Pontardawe Secondary School.
Jones, T. R.	1st M.B.	Llandyssul School.
Kaplan, L. N.	4th Year	Stellenbosch High School and Cape Town University.
Kesson, C. W.	1st M.B.	Dulwich College.
Knight, A. H.	1st M.B.	Dulwich College.
Lee, H. A.	1st M.B.	Ardingly College.
Macfie, H. B. A.	3rd Year	Mill Hill School and University of Toronto.
Meerapfel, O.	2nd Year	Heidelberg and Berlin Universities.
Mills, R. P.	1st M.B.	Lancing College.
Moody, H. E.	2nd Year	Alleyn's School, Dulwich.

Name	Year	School or College
Neville, R. C.	4th Year	Highgate School and Jesus College, Cambridge.
O'Keefe, J. P.	2nd Year	Christian Bros. College, Kimberley, and University College, Dublin.
Oliver, J. R.	4th Year	Caius College, Cambridge.
Palmer, K. W. N.	1st M.B.	Ipswich School.
Patenall, A. J.	1st M.B.	West Monmouth School, Pontypool.
Pearce, A.	Pre-medical	Burlington College and King's College.
Pearson, G. H.	1st M.B.	City of London School.
Pearson, G. M.	Pre-medical	Oakmount School, Arnside.
Peck, C. W.	1st M.B.	Barking Abbey School.
Phillips, C.	2nd Year	Battersea Grammar School.
Phillips, C. H.	1st M.B.	Lawrence College, Chora Gali, India.
Quinnell, C. P. F.	1st M.B.	King's School, Rochester.
Rhydwen, R.	2nd Year	Towyn County School.
Roberts, A. T. M.	2nd Year	Epsom College.
Robinson, R. G.	1st M.B.	St. Dunstan's College, Catford.
Salmon, L. F. W.	1st Year	Rutlish School, Merton.
Sharpe, C. G.	Pre-medical	Portara (Ireland).
Shellim, M. A.	1st M.B.	St. Xavier's College, Calcutta, India.
Silver, P. S.	1st Year	King's School, Bruton.
Smart, G. F.	1st M.B.	Selhurst Grammar School.
Smith, T. H. Spencer	Pre-medical	Cheltenham College.
Steele-Perkins, T. H.	3rd Year	Clifton College and St. John's College, Cambridge.
Stewart, I. McD. G.	1st M.B.	Berkhamsted School.
Steytler, J. van A.	1st M.B.	Boys' High School, Paarl, South Africa.
Thomas, G. N. J.	2nd Year	Northampton School.
Thomas, G. T.	2nd Year	Berkhamsted School.
Thorne, T. C.	1st M.B.	Bishop Cotton's School, Simla.
Tilley, R.	1st M.B.	Rossall School.
Tillman, W. G.	2nd Year	University of Munich.
Todd, E. R. Hodgson	1st M.B.	Newcastle-under-Lyme High School.
Todd-White, R. N.	Pre-medical	Felsted School.
Tumrasvin, D.	1st M.B.	Imperial Service College, Windsor, and Brighton Technical College.
Wakeham, J. Y. D.	1st M.B.	Hoe Grammar School, Plymouth, and Plymouth Technical College.
Walker, H. K. G.	1st M.B.	Epsom College.
Walter, K. H.	1st M.B.	Lancing College.
Williams, E.	2nd Year	St. Michael's School, Bryn, Llanelly, and Welsh National School of Medicine, Cardiff.
Williams, E. H.	1st M.B.	Queen Elizabeth's Grammar School, Carmarthen.
Williams, J. N.	1st M.B.	Dolgelley Grammar School.
Wormald, H.	1st M.B.	St. John's College, Johannesburg.
Young, A. L.	3rd Year	Bradfield College and St. John's College, Oxford.
Zuckerman, Z. E.	4th Year	University of Cape Town.

Dental

Name	Year	School or College
Abbey, R. A.	Pre-medical	Lord Williams's Grammar School, Thame.
Allen, Ernest	2nd Year	Hull Grammar School and Bridlington School.
Barnard, A. C. S.	1st Year	Clacton College and County High School, Clacton.
Blockley, C. H.	Pre-medical	Haberdashers' Aske's Hampstead School.
Bridgeman-Williams, H.	1st Year	Private.
Bromley, T. P.	1st Year	Darwen Grammar School.
Bugg, D. W.	1st Year	Kingsbury County School.
Channing, G. H. D.	1st B.D.S.	Latymer Upper School.
Chaundy, C. A.	1st Year	Exeter School.
Clark, B. D.	Pre-medical	Aske's School, Hatcham.
Clarke, G. E.	Pre-medical	Dean Close School, Cheltenham.
Clarke, N. F.	Pre-medical	Dulwich.
Clarkson, E. J. A.	1st Year	Mill Hill School.

Name	Year	School or College
Clement, A. J.	Pre-medical	Cedars School, Leighton Buzzard.
Cotterell, J. A.	Pre-medical	King's School, Rochester.
Cutler, E. P.	Pre-medical	Hurstpierpoint College.
Davies, A. P.	Pre-medical	Llandovery College.
Dawes, A. M.	1st B.D.S.	St. Paul's School.
Dunnett, J.	Pre-medical	Lancaster Royal Grammar School
Ellis, P.	1st Year	Sutton Valence School.
Evans, M. N.	1st B.D.S.	Eastbourne College.
Finch, D. R.	1st Year	St. Lawrence College, Ramsgate.
Fine, W.	1st Year	Coopers' Company's School.
Frazer, W. F.	2nd Year	Epsom College.
Freeman, H. D.	Pre-medical	Alleyn's School, Dulwich.
Gayes, J. B.	Pre-medical	St. Paul's School.
Greenfield, R. L.	1st Year	Ipswich School.
Hacon, W. S.	2nd Year	County High School, Ilford.
Haines, W. E.	Pre-medical	Private.
Harris, N. S.	1st B.D.S.	Framlingham College.
Irish, K. A.	1st Year	King Edward VI School, Southampton.
Jones, G. S.	1st Year	King Edward's School, Birmingham.
Kemp, M. R. C.	1st Year	Bromsgrove School.
King, H. B.	Pre-medical	Ampleforth College, York.
Lattouf, S.	4th Year	American Academy, Larnaca, Cyprus, American University of Beirut.
Lee, J. W.	1st B.D.S.	Malvern College.
Liddelow, K. P.	Pre-medical	City of London School.
Mace, D. F.	2nd Year	Westminster School.
Malleson, M.	Pre-medical	Tonbridge School.
Marston, R. W.	1st Year	Loughborough Grammar School.
Middleton, A.	Pre-medical	Highgate School.
Moir, L. J.	Pre-medical	Brentwood School.
Nancekievill, L.	2nd Year	Barnstaple Grammar School.
Palin, W. S.	2nd Year	Charterhouse and Sidney Sussex College, Cambridge.
Power, D. L.	1st Year	Charterhouse.
Praat, T. N.	Pre-medical	Bedford School.
Price, L. J.	Pre-medical	Durban High School, Natal.
Price, R. C.	1st Year	Stationer's Company School and East London College.
Probert, B. T. C.	1st Year	Truro School.
Robertson, J. C.	2nd Year	Regent Street Polytechnic.
Scott, L. G.	Pre-medical	Whitgift School.
Shaw, M.	1st Year	Ryde School, Isle of Wight.
Southwell, A.	Pre-medical	Hebden Bridge Grammar School.
Spooner, P. d'E.	Pre-medical	Charterhouse and Brighton Technical College.
Stanhope, E. D.	1st Year	Mill Hill, Leicester, and Leicester College of Technology.
Strasburger, E.	4th Year	Frankfurt University.
Turner, G. M.	1st Year	Aldenham School.
Tweney, E. A. St. Helier	Pre-medical	Wycliffe College, Gloucester, and Swansea Technical College.
Vellender, B. F.	1st Year	Berkhamsted School.
West, Roger	1st B.D.S.	Caterham School.
West, W. H.	2nd Year	Varndean Secondary School, Brighton.
Williams, G. L. M.	1st Year	Tiffin School, Kingston.
Wright, E. W.	1st Year	Shoreham Grammar School and East London College.
Yates, J.	1st B.D.S.	Chelsea Polytechnic.
Zorab, R. A.	Pre-medical	Cheltenham College.

William Gray Testimonial Fund

The following is a further list of contributors :—

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Hospital Information, etc.

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H. Stewart
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W. F. Leuner
E. R. L. Shrimpton
R. S. Wells

Change of Address

G. W. Heckels, Cornerways, 34, Church Street, Epsom. *Epsom* 9035.

W. P. Roe, Wragby, Lincs.

Papers by Guy's Men

T. I. Bennett. Clinical manifestations of hypocalcæmia in renal failure. *Lancet*, 1933, ii, 694.

F. N. Doubleday. Evidence regarding different types of periodontal disease. *Proc. R.S.M.*, 1933, xxvi, 1405.

R. A. Greeves. Operation for relief of congenital ptosis. *Proc. R.S.M.*, 1933, xxvi, 1478.

C. H. Fagge. Case of hydronephrosis. *Brit. J. Surg.*, 1933, xxi, 151.

Birth

PITT.—On September 7th, 1933, at 92, Auckland Road, Upper Norwood, to Emily (née Crawford), wife of N. E. Pitt—a son.

EDS. { M. J. McA. / C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVII — *28th October* 1933 — *Number* 1181

PASSIM

ON looking at the list of the Entry of Students, October, 1933, published in last week's *Gazette* one sees that there are nearly 60 first-year medical students. This must be a record, and no doubt compares favourably with other medical schools in London, who seem to be competing with one another to obtain the largest number of students, in a manner reminiscent of the newspapers booming their circulations. It is good to see the Medical School flourishing in this manner, and we are glad to know that so many have the ambition to choose Medicine as their profession and the taste to select Guy's as their school. On the other hand, it is well to remember the responsibility the Hospital shoulders in encouraging and attempting to train so many in a profession which shows signs of overcrowding, and in which such an exacting standard of efficiency is rightly expected.

There is little doubt that they will be well served in the Medical School, where accommodation is ample and apparatus up to date. In the preliminary sciences there is no lack of material; bell-jars, earthworms, litmus paper and dogfishes can be easily obtained from the usual sources, and even the Freidman test for pregnancy cannot have completely exhausted the supply of rabbits ready to die in a good cause. The material for Chemical Physiology is, we remember, mostly self-produced, though larger Winchesters may be needed to accommodate the extra numbers. The Dissecting Room and Wills Library may be crowded, but conversation will, no doubt, as usual, be general, which broadens the mind and stimulates interest in everyday affairs. We feel, however, sure that the staff of the Medical School will see that, although there are more to take the exams., the proportion of success will be as high as ever.

The rub will be found when, after passing their second medical exam., this little army invades the wards with their new stethoscopes. Although to a certain extent they may overlap into different three-month periods, they will also be joined by fourth-year men from other universities, who fortunately still choose Guy's for the rich clinical experience it professes to offer them. Twenty-four is now considered the maximum for one set, providing each firm with six men, though for some appointments this is too many. It seems almost certain that this number will be exceeded, and probably grossly so, in which case quality will give place to quantity, for it is observed that the keenness of dressers and clerks varies inversely with their number. A large firm is unfair to the patients, harassing to the visiting staff and heart-breaking for the Registrars; it is cumbersome in theatres, boring in the medical wards and ridiculous in obstetrics and gynæcology. The recent scheme of linking up with the L.C.C. hospitals may provide more clinical material, but cannot supply the intimate contact between student and patient which is so essential a part of the teaching at Guy's. With large numbers it may be possible to turn out a man well grounded in the preliminary sciences, acquainted with laboratory methods, a competent pathologist and capable of passing exams., but it is doubtful whether he will have the clinical sense and experience necessary to start practising as a doctor.

It has been said, and is still said, that, although no fortunes are to be made in Medicine, everyone is sure of making a living. In these unsettled times this may have proved an inducement, undoubtedly a bad one, to many but recent investigations showed that, although the profession was not yet crowded, it was already reaching saturation point. Is it at all certain, therefore, that after their long training there will be enough work for all the newcomers? If the overdue reform of sterilising the unfit becomes Law, which is now a possibility, we cannot even promise them the privilege of looking after the morally and mentally deficient.

WE have every sympathy for that reputable and enlightened weekly which in an occasional Health Supplement attempts to give the public some idea of the principles of diet, hygiene and simple physiology, and ventures advice on how best to live to a good old age and even out-run the Psalmist's hopes. Yet, though expecting no panacea or old wives' tale on this subject, we were somewhat disappointed in the articles, which savoured rather of the vague generalities of the usual leading article and left little tangible to fall back on. An intelligent public becoming health-conscious will expect more definite advice, and where the medical profession as a whole is ignorant of, or, at any rate, takes no care in propagating these simple essentials of Preventive Medicine, it can only turn to articles such as these for their information. Perhaps in another supplement it will get fuller guidance.

But the most disconcerting part of this Supplement was the fact that on the page opposite to an article on keeping young there was a full-page advertisement of a patent method of treatment which, based on " a new ideal of internal hygiene," was strongly recommended for 36 varying diseases, ranging from " hair trouble " and " pruritis " to peritonitis. Now some may allow that there is at times a little to be gained by the method advocated in this advertisement, although many of us would certainly consider it actively harmful. That is a matter of medical dispute, but there is no doubt that the impression left by the advertisement may exert a most harmful and devastating influence on the minds of its readers, likely to counteract all the good done by the Health Supplement as a whole.

Some of these patent medicines and cures may do no harm even if they can do no good. Many of their advertisements, however, are positively dangerous in that they may defer a visit to a doctor when a disease is in a curable state. What glorious specifics they are ! " Will cure the most severe cases of cancerous growths, tuberculosis, consumption, heart trouble and tumours." " Will quickly end the pain and danger of kidney trouble." "Revolutionary discovery in cases of erysipelas, ringworm, burns, poisoned wounds and abscesses." And, of course, " Wonderful discovery . . . disperses bodily growths without operation," and so on ; a cure for everything, even if it be loss of ambition or falling out of hair. It seems extraordinary that in a country where it is a crime to sell beer in the afternoon this patent medicine scandal is allowed to flourish, provided their notices avoid obscenity. Apparently Parliament cannot cope with it. A Select Commission, appointed 19 years ago, made many recommendations, and Bills have been introduced into the House of Commons since, but so far nothing has been done.

One remedy seems to us clear. Let the medical profession write more frequently for the press and give the public the benefit of sound physiology and hygiene and a sane approach to medical matters. While the art of Medicine remains shrouded in mystery, small wonder that the public are tempted to indulge in another mystery and unable to discriminate between the two. That is one reason why we shall always welcome Health Supplements in the weekly press and enlightened medical articles in the popular dailies.

WE were interested to see in the Sunday papers of the recent Art discovery in the Hospital, and have since been asked whether the Hospital press could tell us where the treasure has been found. On making inquiries we find the picture is a fruit and flower piece, the only surviving specimen of the work of one John Teal Cooper, famous in the early 18th century as a painter in this genre. It is the property of the Hospital and hangs in the Superintendent's House.

IN our Sporting Pages we announce the formation of a new Squash Rackets Club.

THE following appointments have been made :—

House Physicians—
To Dr. Hurst—B. McArdle.
To Dr. Mutch—J. C. Colbeck.

House Surgeons—
To Mr. Rowlands—F. R. Kilpatrick.
To Mr. Hughes—W. G. Gill.

Out-Patient Officers—
R. A. P. Hogbin.
M. J. Lindsay.
J. B. C. Murdoch.
W. L. Ogle.

Assistant House Surgeons—
To Mr. Bromley—D. W. Geidt.
To Mr. Slesinger—A. E. Jones.
To Mr. Ogilvie—I. G. Robin.
To Mr. Doherty—A. G. Johnson.
To Mr. Grant Massie—E. C. Zorab.

Resident Obstetrician—
To Mr. Chapple—H. G. N. Cooper.

House Surgeon in Throat Dept.—
To Mr. Mollison—A. Bowen-Davies.

House Physician in Diseases of Children—
E. D. Falconer.

House Physician in Neurological and Dermatological Departments—
M. J. F. McArdle.

The Burden of Facts

The Opening Address of the Winter Session at Guy's Hospital, delivered by Professor Sir Gowland Hopkins, on Tuesday, October 3rd.

MR. CHAIRMAN and GENTLEMEN,—Everyone whatever and wherever the occasion must feel pleasure in distributing awards to students who have distinguished themselves; but for me to perform that pleasant office at Guy's has been a very happy privilege indeed, as you will understand when I tell you I spent 15 years—the best years of my life and among the happiest—within the precincts of the hospital.

But that was long ago. It is 50 years, almost to the day, since I first passed its gates.

In exercising the further privilege of addressing you, let me first very heartily congratulate those to whom to-day's awards have fallen and express the hope that they are but the earliest of many more that life has in store for them. Let me moreover congratulate everybody here, the freshmen upon the profession they have chosen, and all, very heartily, on being of the brotherhood of Guy's.

I will plead next for another privilege, one which is usually allowed to age. I want you to let me indulge for a short time in reminiscence and say something of the years I spent at Guy's, from 1883 to 1898. I would not have you believe that I took 15 years to qualify! The first five of these years were spent in a laboratory attached to to old Clinical Ward, where I acted as assistant to Thomas Stevenson (afterwards Sir Thomas), whose name I have never ceased to revere. We engaged there upon toxicological investigations for the Home Office. The last five years I spent as a member of the school staff, junior in position but, unfortunately, not so junior in years. In 1898 I was invited by Michael Foster to Cambridge, and then resigned all thought of attempting success as a clinician.

It is of Guy's itself, however, of which I would speak. Everyone is apt to believe that his own times are times of special interest, but I feel that the period of which I am to speak was indeed one of importance in the history of the hospital and the school. It was, in particular, a period of transition and of rapid changes.

The earliest years of the period, indeed, were marked by tragedy, by that truly remarkable succession of losses which the hospital suffered from among its physicians in the course of a few years. In 1883 died Hilton Fagge, one of the greatest of Guy's men; in 1884, Mahomed, a pioneer in the use of the sphygmograph; in 1886, Moxon, whom Fagge, who was himself his patient, called "the perfect physician"; Carrington in 1887, and lastly, in 1889, Woolridge. Fatalities such as these in such rapid succession must be almost unique in the history of the staff of any great institution. In any appraisement of the eighteen-eighties at Guy's it is impossible to ignore the effect of them. They could not fail to exert an influence on the fortunes of the school. All that died thus were famous men in the prime of life or young men of very high promise. But Guy's has never failed to find the right men to serve it when need has arisen. Great physicians, of course, were still found on its staff during that sad period of loss. Samuel Wilks, greatly revered for his every quality but nearing the end of his clinical activities; Pavy, with all the deportment of a physician of the old school, whose special concern with diabetes took him into the laboratory as well as the wards; Pye-Smith, urbane, cultured and learned; Frederick Taylor; Goodhart, full of personality and the experience of a brilliant and popular consultant.

In 1886 Hale-White, whose presence to-day is a source of infinite pleasure to myself, and I doubt not to you, became assistant physician. From the first every student benefited from the wonderful clarity of his teaching and his diagnostic skill. In the next year there came from the London Hospital to Guy's one whose forceful personality and administrative genius became of infinite value to the school—I mean, of course, Cooper Perry. To Sir William Hale White and to Sir Cooper Perry my personal debt is great indeed. About the same time Woolridge was appointed to the staff, but his stay unhappily was short; his early death was a loss felt by science no less than by clinical medicine. Alas, the same words apply no less to Washbourn, who became Assistant Physician at the close of the decade of which I am speaking. His death soon after the end of the Boer War meant personal sorrow to very many, for not only had he the promise of a great scientific physician, but he was a winner of hearts.

Happily, the surgical staff in those days suffered none of these sad fatalities, and its personnel was

stable during my time. It comprised men with a great diversity of gifts, and some personalities so outstanding that one's memory is full of students' anecdotes concerning them. Among these was Arthur Durham, a skilful surgeon of the old school, whose Rabelaisian humour and *bonhomie* made him popular with all, and Jacobson, whom one can only remember as " Pom," whose infinite kindness disguised by caustic wit is never forgotten by those who knew him. Of such men as Howse, Golding-Bird and Davies-Colley I might say much in praise did time permit. To Charters Symonds, for whom it was my privilege to dress, I owed much. Lastly, I would mention the appointment of Arbuthnot Lane in 1888; he was the herald at Guy's of the new era of asepsis. There were many other personalities, of course, upon the more specialised staff, but I knew them less and will not venture to refer to them.

I have recalled thus briefly those days of my sojourn at Guy's, partly because I could not help doing so, but also to ask you to consider what, from the standpoint of the student of medicine, are the chief differences between then and now. You will agree, I think, that prominent among them are the rapid and accelerating growth of the sciences ancillary to medicine, and the related circumstances that laboratory methods have intruded into the art of diagnosis to an extent not dreamt of in the days I have been recalling. Doubtless each generation can look back upon progress and the students of my day felt that they had more to learn than their fathers, but the advances they had to assimilate, though, of course, affected by collateral scientific progress, had been mainly concerned with the clinical art itself. The clinician had been earlier engaged in steadily improving the methods of diagnosis, based mainly on the skilful interpretation of physical signs checked by the obvious findings of the post-mortem room. At the same time he had been getting rid of much lumber from still earlier days—the heritage of polypharmacy, for instance, and the employment of useless drugs.

The student of my time, therefore, if on certain lines he certainly had to learn more than his predecessors, escaped some taxes on his memory. Except for anatomy, which, especially at Guy's, was taught with great thoroughness and in great detail, the pre-clinical subjects made relatively small demands upon the thought and memory of the student, though doubtless he would have been loath to admit that they were small. He felt, moreover, that the link between those studies and his real work in the wards, again with the exception of anatomy, was but a slender one, and, to say the truth, some at least among his clinical teachers, doubtless with conviction, did not scruple to encourage that view. A movement was growing in Germany at that time in favour of replacing clinical interpretations and the empirical classification of diseases by what were held to be more rational methods based upon the growing physiology of metabolism and other laboratory teachings. It met, however, with no sympathy from English clinicians, whose own training had been essentially practical and who had our racial prejudice in favour of the guidance of experience rather than of theory. It is not indiscreet, I think, after all these years to recall that I once heard the distinguished surgeon then entrusted with the teaching of physiology greet his new ward clerks when they first met in the ward by saying: " Gentlemen, you are now at liberty to forget all that theoretical stuff that you have previously had to hear from my lips." Doubtless such an attitude was in those days less unreasonable than it would be to-day. The Continental movement I have spoken of proved to be premature, for experimental science had then provided relatively very few assured gifts to practical medicine, and to ignore the laboratory when in the ward was not unjustifiable.

This was much the position when first I knew Guy's in those early 'eighties, but, as I have claimed, the years I spent here were years of change and transition. Let me in briefest fashion justify this claim. The earliest of the years fell before the coming of the specialist in pre-clinical teaching. The preliminary subjects, elementary chemistry and physics, it is true were taught, though only in part, by specialists, men distinguished in their own calling. They made, however, relatively small demands, and their isolation from the real life of the hospital was complete. The lectures on physiology, no less than those on anatomy, were delivered by members of the clinical staff. The former was taught on somewhat dogmatic and vocational lines by the distinguished surgeon I have already quoted. Of biochemistry in the modern sense of the word there was none. It was not until much later that a professed physiologist was appointed to the school staff, when the choice made was of the wisest. Starling was an inspiring teacher as well as a great investigator. So much, however, in those days was the specialist mistrusted that even his teaching was associated with that of a physician.

Pathology was practically confined to the morbid anatomy which was taught by the clinicians. Bacteriology made no real entry till 1891, when a special laboratory was put into the wise and able hands of Washbourn.

Parenthetically one may remark that the surgeons of my earlier days, though so skilful in their art, made no more than gestures of respect to asepsis. It required the faith, enthusiasm and great dexterity of Arbuthnot Lane to introduce reality into aseptic technique.

The coming of radiology was still, of course, some years off, and only made its rapid progress after my time. In connection with its first appearance here I am tempted to tell you of an incident. In 1895 I was one of a company going round a ward with Dr. Hale-White (as was then his title). A difficult abdominal case came before him and, passing his hand over the abdomen, he said to me, "Hopkins, some scientist ought somehow to make these muscles transparent for us." I remember his words well. Three days afterwards Roentgen for the first time announced his discovery of X-rays!

I myself acquired the first X-ray tube that came to Guy's, and it was one of the first seen in London. With it I was able triumphantly to demonstrate, after five minutes' exposure, the presence of half a needle in a thumb. For the cases which Mr. Lane optimistically sent up to the physiological laboratory at that time a month's exposure would not have sufficed. Radiology soon went ahead, but I had nothing further to do with it. Upon changes and progress of a material kind, the erection of the College, for instance, and the foundation of the complete Dental School, I must not stop to dwell.

The greater demands of pre-clinical scientific studies began then; while I was here they rapidly increased during those years, and have since grown so greatly that by the end of his pre-clinical years of which for the moment I am chiefly thinking, the average student of medicine commonly escapes from the hands of a group of specialist teachers and examiners with a mind overburdened with a myriad of scientific facts. These have been supplied to him from divers lecture rooms and laboratories; they are apt to be disconnected and their relative importance for his future thought and activity seldom evaluated. It is often, I think, a sense of being overwhelmed by these rather than any distaste for science that leads so many (there are exceptions, of course) to leave their pre-clinical studies for the wards with a feeling of marked relief, still looking to the ward, as did the average student of a generation ago, as the Promised Land where eyes and hands will at last be trained for the doctor's proper calling and where the mind will be in touch with the actualities of diagnosis and treatment.

The rapid progress of science during the present century, though we have heard much lately of the indictment that it has put powers into man's hands which he is not yet qualified to use well, need not fear that accusation from the lay public in so far as it has assisted in the understanding, cure and prevention of disease. Yet even here we know that its teachings must be applied with adequate knowledge, and only applied when their truth is assured. Scientific progress indeed has made the approach to medicine a very steep path, leading, at one stage, at least through a wood difficult to see because of the trees; yet that path must be traversed, and not slowly, by all who aspire to enter a highly scientific profession.

The great art of medicine is based upon much more than scientific knowledge alone, but if it neglects any knowledge which can extend its powers it sins against the light. It is sure, therefore, that the search for ideals in medical science-teaching is not merely of educational, but of social and national concern.

In respect of the pre-clinical teaching any approach to an ideal should involve, as well as an adequate introduction to the facts of the ancillary sciences, the instilment of a scientific outlook, and with it the love of exact truth together with a recognition of human frailty in striving for the truth; the ability to weigh evidence and (believe me, of no small importance to the doctor) a willingness to give up prejudgments and prejudices in the face of evidence. These should be the gifts of a scientific education. It is difficult enough for them to emerge from the burden of facts which we place on the shoulders of the too willing student.

What I have been saying involves no theme which is in any sense new, and you may ask me why I have talked to you on such lines when so many others were open to me. You may in any case feel such remarks to be more suited for a teachers' meeting than for an occasion such as this. To dwell thus on the difficulties of the curriculum might seem to be to discourage those who are about to embark on it, while the pre-clinical years may well be of forgotten interest to those who have left them behind.

But the adjustment of the curriculum to the amazing growth of science is yet a task for to-day, and its accomplishment can be no rapid one. Its difficulties will increase rather than decrease, for the facts revealed by science are increasing faster than ever. Your generation will, I think, be still facing the problem, perhaps with more success

towards its solution than mine or that of the dominant generation which stands between yours and mine. I may indeed be addressing some whose destiny it will be to solve it successfully. I have, perhaps, been the more tempted to make it the subject of my remarks because we have been struggling with the problem at Cambridge. A syndicate, as many of you may know, has sat for more than a year under a Vice-Chancellor, who is the ablest and most skilful of chairmen, to discover if our existing teaching could be bettered. The recognised intention of the syndicate was to see how far without loss of adequacy the burden of over-work might be lightened for our medical students, and every teacher came to it with an honest desire that this might prove possible. The report of that syndicate has been published, and some of you may have seen it. It has not yet, however, been submitted to discussion by the University, so I will not touch on its findings here. I mention our local effort in illustration of the extreme difficulty of the problem before you. I can assure you, without any serious breach of confidence, that in spite of the help of many expert witnesses, the syndicate, during its sessions, was often in despair of coming to conclusions of value. I believe its labours will prove justified, but I doubt if they will greatly relieve the student from what I have called the burden of facts.

I have found inhibitory influences of the same kind whenever I have attended, anywhere, consultations concerned with the pre-clinical curriculum. Each specialist present displays great respect for the subject professed by each of his colleagues, but is profoundly conscious of the superior importance of his own. With all respect I would submit that such a conviction is not wholly absent from the mind of the specialist even among clinical teachers. There is, therefore, an inevitable struggle for a share, as large as possible, in an inextensible time-table. If I speak thus of the foibles of specialist teachers, let me humbly confess that I am, or have been, among the worst of them in respect of that foible. I am, as a biochemist, convinced, as you will readily believe, that a most important advance in medicine will be made when disease comes to be viewed with less regard to morphological changes with which it is associated, and with more attention to all those diversions and distortions it produces in the chemical reactions which underlie all the changes visible to the eye.

I have often felt convinced when at my worst that the anatomist and the morbid anatomist between them should (notwithstanding the needs of the surgeon) resign to me and mine at least one-third of the time at present allotted to them. I have come to realise, however, that I and my kind know too little at present to justify such a claim, while retaining the conviction that time may yet justify it. I do not suppose, however, that your distinguished professor of anatomy will admit that advancing bio-chemistry hangs like a sword of Damocles above his devoted head.

Returning to our familiar but difficult problem in a more serious spirit, I cannot complain having made much of it if you feel I should make a personal contribution towards its solution. If you press me too far in this direction, however, I shall be sorry that I have not chosen something else to talk about. I have already hinted that the solution may wait for the efforts of some among yourselves. I can offer only a few discursive remarks which perhaps will bear upon it.

Although the pre-clinical teaching is allowed a shorter time in this country than in some others, the remedy is not to be found in its extension. This would certainly be unpopular, and is likely long to remain impossible. Moreover, it would probably not result in making the present teaching of facts less hurried and therefore more easily assimilated. That enemy the specialist, as he is to be found in the Universities at any rate, abhors a vacuum, or even low pressure, anywhere in the time-table. He would, I think, hasten to raise the pressure again.

We are, of course, engaged now in making a present of the preliminary sciences to the school master, and this in effect is lengthening the pre-clinical years of study. But this policy cannot be pushed farther. Cultural value can doubtless be given to the teaching of these sciences, but we must not interfere any more with the wider education so essential to a liberal profession.

The teaching of science to the medical student might be made more vocational, thus leading to much economy in the facts to be memorised. Henry Poincaré, the great French mathematician and philosopher, more than once pointed out that science itself has to select the facts which it takes under its charge : " However great our activity," he wrote, " facts outstrip us, and we can never overtake them. While the scientist is discovering one fact, millions and millions are produced in every cubic inch of his body. Trying to make science contain Nature is like trying to make the part contain the whole." There is a hierarchy of facts and those which science seeks are those which occur frequently in the scheme of things, and not those which occur once in a way, in isola-

tion, without apparent bearing on other facts. It is the facts which unite into generalisation that are the treasures of science.

Now when any pure science is to be applied its own facts and even its generalisations assume a new hierarchy, a new relative importance, and it is clear that a selection for specific application is as logical as it is ultimately necessary. With such a selection, however, teaching becomes labelled as vocational, and this raises an issue which may be viewed differently at different centres of teaching. At the two old Universities, and I think at some others, there is distaste for the very sound of the word vocational. The ideal that every science should be taught to everybody for its own sake, without reference to its application, is doubtless a high one, and worthy of respect. It should, I think, be respected, however, with due regard to possibilities, and to the needs of special cases. Moreover, I have always held that if the teacher has skill enough and goodwill, the fundamentals of a science can usually be taught adequately on a basis of facts selected for their vocational value. Doubtless, indeed, in a great medical school like this, where pre-clinical science is taught in a clinical atmosphere, there is no such dislike of the vocational element. If so, there may be, and probably is, for the student some lightening of the burden of facts; or this could be so if examiners were always wise. But it is true that to teach scientific principles adequately on a vocational basis requires real aptitude and special knowledge on the part of the teacher. Here, perhaps, we come to the root of our difficulties and, maybe, a dim foreshadowing of a solution. Teaching as an art is too much neglected in our centres of higher learning, especially, perhaps, in the science schools of the Universities. Those in authority there usually reach their position because of their distinction as investigators or for good reasons other than their ability to teach. Some few may have the faculty inborn, others lack both ability and the interest necessary for excellence. It is wholly right, indeed, that in a progressive scientific centre the claims of research should be paramount, and it would be fatal if distinguished investigators were compelled to adjust their thoughts and teaching to professional needs.

I am thinking, however (rather vaguely, I admit), of a possibility other than this. We know that distinguished clinicians during recent years have foregone the financial rewards of practice in order to devote themselves to advanced teaching; to clinical research also, perhaps, but often, in the main, to teaching. May we not hope that men of equal ability may choose an unselfish career involving a full medical training (for that would be an essential experience) and a subsequent return to the teaching of pre-clinical sciences, not as specialists but as teachers capable of covering a wide ground, and presenting the facts from a standpoint which would be selective, synthetic, interpretative and devoted to a special end. Such teachers could not be investigators as well, and could never function, of course, without public recognition of the importance of their special work and the respect which would be its due. Here, however, I am dealing with matters on which, in Sir Thomas Browne's words, "Thought should but tenderly touch," for it is clear that finding a place for such teachers as these would present great difficulties, especially in connection with laboratory work. I believe that most of my colleagues would think it impossible and, moreover, feel that such a policy, even if practicable, would be essentially bad. Nevertheless, I am as convinced now, when near the close of my career, as I was at its start, when science made less demands, that synthetic minds should somehow intervene between the scientific specialist and the student preparing for a profession of which the basic demands cover so wide a ground.

I would like now before closing to turn for a short time from the technicalities of education to a matter of different and, perhaps, even deeper import, one upon which you may feel I am less qualified to speak. Granted adequate knowledge, scientific and clinical, actual or potential, how best should the doctor use it in the interest of his patient? Or, to be more precise, what should be his fundamental conception of the nature of disease as displayed by complex human beings? The particular angle from which he views disease and his patient may profoundly affect his approach to treatment. The pendulum of opinion on such matters has never been steady, and it is now swinging to a position which, though to-day I count but as a layman, interests me supremely, so much so that I would like to be young enough to live to see the outcome of a change which seems to be in progress. One would so like to know whether it is real—how far it is significant. When first I followed, so far as I was able, the working of the minds of physicians, I found them relying largely upon empirical but sound knowledge inherited or personally acquired. Their aim was to make every diagnosis clear and definite; the diagnosis classified the patient no less than the disease; the localisation of disease, if that were possible, was the careful aim. The conception of diatheses or dyscrasias was but little in the minds of the majority, and surely rightly so, for such

concepts had, a little earlier, been so often employed, with complete vagueness, as a cloak for ignorance or a substitute for thought. The physicians I am speaking of relied upon observation at the bedside, but their whole attitude was essentially scientific. Then the laboratory began to play its part in providing aids for diagnosis. The rapid increase in this, though always somewhat mistrusted by elder physicians, was welcomed, I think, by a newer generation. To-day, if I mistake not, there is a more general reaction against reliance on the laboratory. It is felt, by not a few at any rate, and the feeling is often expressed, that its influence is leading to the atrophy of the true clinical mind. It is feared that the clinician may cease to cultivate the power of synthesising experience and with it the faculty of applying it almost subconsciously to the individual case. The true art of medicine, it is feared, is thus in danger.

It has been said that the older physicians, with minds undisturbed by a crowd of scientific facts, developed a clinical sense *sui generis*, as subtle as the sense of taste or the sense of smell, and that it was upon this sense (I quote from an article published in *The Times* a few years ago) that the great school of English medicine was founded. If there be truth in this there is something to be added. After all the doctor, like everybody else, must be judged by his actions. This clinical sense did not prevent the bleedings and the purgings or the calamitous druggings employed by the majority of these older physicians. It took a whole generation of their successors, to the last days of which I have just now referred, employing, not laboratory methods it is true, but careful and scientific observation by the bedside to get rid of these errors ; then, unfortunately, bad treatment came for a time to be largely replaced by almost no treatment at all.

In so far as diagnosis may have come to be based on what has been scornfully called " the adding up of laboratory reports," all must feel that condemnation is justified. But in this country at least so bad a policy is surely uncommon. I myself have never been able to understand why or that laboratory datum of proved significance should be in a category different from the data obtained, say, by the stethoscope at the bedside.

But the reaction in thought to which I am alluding involves something more subtle than mere suspicion of laboratory reports. It is related to a general movement in contemporary minds. It is prominent in philosophical thought, and in that of many biologists. It insists on a truth which, in a general sense, must be obvious to all, but emphasises it as being too often forgotten in the methods by which science studies phenomena. This is the truth that any whole is more than the mere sum of its parts ; that you cannot learn realities about any whole by a study of its parts in isolation. Translated for the physician, this means that he has not yet properly appraised his patient when he has localised a disease, however accurately, or put his finger on the cause in the sense, say, of an infection or a deficiency in diet. He must remember that he has to deal, not with disease as a separate entity, but with a complex ; with the reaction of a whole individual, body and mind, to abnormal conditions. Now even intelligent common sense recognises this in its own way, and surely no doctor fails to realise that his every case is an individual case. But the implication is that the tendency to-day is to neglect the significance of this ; that modern methods of diagnosis lead to emphasis upon symptoms in isolation, while the patient as a whole is forgotten ; and the inference is that the modern physician should learn to lean less upon the kind of knowledge that experimental science has provided, and more upon what can only be learnt at the bedside. It is urged that in doing so he will regain the soundness that was inherent in Greek medicine—in the teaching of Hippocrates, the father of us all. There is for many much satisfaction in the belief that a so-called Neo-Hippocratic School (the name attracts many) is developing in this country, emphasising the importance of the clinical sense and demanding more respect for the patient as a complex individual. There is surely much in such a movement that is worthy of respect, for the constitutional factor in disease has for some time been too much neglected ; but in so far as it encourages the undervaluation of scientific data and methods, I submit that Neo-Hippocratism may involve the danger of retrogression. But if it be true that it undervalues science it would not be worthy of its name. Even second-hand and superficial acquaintance with Hippocratic writings, which is all I possess, seems to make it clear that the school of Kos, when at its best, would have rejoiced in the possession of the science of to-day. It used what little it had, and its spirit was such that it would have used our own knowledge to the full without abatement of its essential wisdom.

What is really undesirable just now is any suggestion that there is something antagonistic between knowledge won at the bedside and that won by experiment. They are complementary, and so often susceptible of synthesis. In parenthesis : It should be clear, I think, that even the constitutional factor in disease, the " diathesis," which it is the special business of the clinician to

recognise and allow for, can be, and can only be, analysed by scientific methods. Without such analysis it remains but a vague conception.

I would here refer further, in a word, to the encouragement of clinical, as distinct from laboratory, research. To encourage the former just now is most desirable, but to encourage it by belittling all that laboratory science has done for the advancement of medicine is neither fair nor wise.

There was one modern physician who always viewed the laboratory and ward together as in complete harmony and with sympathy for both. He wrote once a good many years ago: "The study of physiology and pathology within the past half-century has done more to emancipate medicine from routine and the thraldom of authority than all the work of all the physicians from the days of Hippocrates to Jenner, and we are as yet upon the threshold." But in another place, speaking of the variability which the physician meets in his own objects of study, he remarks that this is the delight of those who find in it an expression of a universal law, transcending, even scorning, the petty accuracy of test-tube and balance—the law that in man "the measure of all things" mutability, variability, mobility are the very marrow of his being. I quote from William Osler, whose literary writings I hope you all find time to read.

After all this discussion we come back to the fundamental circumstance that medicine is a great and difficult art, but an art based more than any other upon science in manifold aspects. In the life of the practitioner, however, the science must always be subservient to the art, and full realisation of this should determine the nature of the methods by which it is taught to the future practitioner in his student days.

The Training and Use of the Senses in Clinical Work

A Clinical Lecture delivered at Guy's Hospital by Dr. J. A. Ryle

GENTLEMEN,—One summer afternoon recently I was conversing with an old Guy's friend in his garden on the subject of plant-scents, a subject to which he has devoted much study and some pleasant writing. Incidentally, I was put through my olfactory paces among his herbs and acquitted myself rather favourably. Our talk then drifted to the use of the sense of smell in medicine, and, when I had quoted a little of my experience, he urged me to attempt a review of the subject. This I shall not do here and now, but my nose has on many occasions been so helpful to me in conjunction with eye and ear and hand that his urging did at least prompt me to the delivery of this lecture, in the course of which I shall have occasion to consider some of the distinctive odours of disease. For anything useful in my remarks you must thank him; for their deficiencies—and descriptions of sensory revelation are not easy—you must blame me.

Diagnostic success at the bedside may be held to depend firstly upon the historical analysis, and secondly upon our personal powers of observation, both of which are subject to the continual leaven of experience. Nothing is so variable as observational ability. Some have it well developed from childhood, men of the naturalist type. Some never acquire any facility for it, and repeatedly miss the obvious. The majority cultivate their aptitudes by degrees and adopt a middle level. Most of us improve with time and practice, but many take but little pains to refine and to register experience, and, for this reason, retard their progress in the clinical arts.

All the five senses are employed in observational medicine. Taste, it is true, we rarely call to our aid now, for Fehling and Benedict have relieved us of the necessity of tasting the urine in cases of diabetes. The eyes, the hands, the ears and the nose, in that order, remain indispensable, and much can be added to their usefulness by training and by a working knowledge of the fields of perception open to them.

I shall throughout confine my attention to the training and use of the unaided senses. Just as over-refinement or an excess of education may blunt the natural faculties of the child, so, I believe, a multiplication of the instrumental aids at his disposal may serve to blunt the primary faculties of the physician. I shall consider in turn sight, touch, hearing and smell, mentioning some of their opportunities in clinical work and some of the ways in which the acuity and efficiency of each may be improved.

SIGHT

Setting aside the information gleaned from others we may say that diagnosis begins the mo-

ment our patient comes within view. Before we have addressed a word to him or her we are, or should be, taking mental notes of age, physique, stature, complexion, expression, temperament, and, in some cases, of peculiarities, deformities or the patent and sometimes specific surface evidences of disease. There is a very genuine study in what may be called *the physiognomy of disease*. Among the more striking and specific physiognomies we include the mitral facies, with its malar hyperæmia and dark crimson lips, its varying tints of purple and, when failure is advanced and the liver engorged, its underlying icterus. The drawn, pale, anxious, grey-lipped Hippocratic facies of peritonitis, with "sharp nose and hollow eyes," is fortunately much rarer than it was, thanks to the surgeons. And so is the risus sardonicus of tetanus. The broad, thick-lipped, impassive face of myxœdema, with the cheeks tinted "a delicate rose-purple," as Gull described it, a slight underlying waxiness, a smoothness of the skin, and the receding hair-margin and scanty eyebrows, is very characteristic, but I have known it, when inspection was too superficial, mistaken for that of mitral disease, nephritis and pernicious anæmia. The anxious face of hyperthyroidism, with prominent eyes and bulging neck, presents no difficulties in the well-developed case, but I have often had cases referred to me in which the cause of a tachycardia or a breathlessness, a nervousness, or a loss of weight had passed undetected because slight and early eye-signs or the fine tremor of the extended fingers had not been observed.

The lemon tint of pernicious anæmia, not always to be readily distinguished from the more sallow tint of gastric malignancy, a disease which it may simulate in many other ways, is none the less characteristic. In gastric cancer it is more likely that there will be evidence of loss of weight, with the so-called cachectic appearance, and a slightly bluish nose is a frequent feature. The brick-red facies of polycythemia, sometimes simulating rude health at a first glance, but often with a tinge of blueness or purple to modify opinion, is quickly confirmed by turning down the deep-red eyelid just as we do in looking for the conjunctival pallor of anæmia. The watery eye, the blotchy face, and the reddish venous nose of alcoholism, sometimes with tremulous lips and tongue, may give the clue to a correct interpretation of digestive or nervous symptoms. Acne rosacea may likewise prompt a diagnosis of gastritis. The slightly drooping lids and wrinkled forehead of tabes, and the Parkinsonian mask of paralysis agitans or past encephalitis, with its flat, unwinking, sad, uncomfortable lack of expression (quite different from the puffy impassivity of myxœdema), are strongly diagnostic. The dark greenish-brown of chronic obstructive jaundice, and the dirty muddy-brown pallor of uræmia, whether due to chronic interstitial nephritis in a young man or to prostatic obstruction in an old, are other examples of diagnostic colour-change. In acute disease there are countless small accessory phenomena for the eye to observe, such as the labial herpes and active alæ nasi of pneumonia; the rose-spots of typhoid fever, and, in grave cases, the involuntary twitching of the hand on the coverlet; the Stocker's sign of meningeal irritation, best shown in tuberculous meningitis; the petechiæ of blood diseases or infective endocarditis. Nor should we forget the clubbed fingers of chronic lung disease, empyema and infective endocarditis, and the transverse grooves on the nails which date a recent illness as described by Wilks.

But what I would like to emphasise is that all these visual signs have their grades or degrees just as the diseases which they portray have their stages, and it is the early changes we should be more anxious to observe and which training and experience alone can help us to observe. It is surely a much better accomplishment to "spot" a 60 or 70 per cent. hæmoglobin with "the naked eye" than a 20 per cent. hæmoglobin, or an early hyperthyroidism than a "typical Graves." Book teaching is too apt to impress us with the appearances of developed or advanced disease. And, apart from those relating to structural or pigmentary modifications, there are the far more difficult, but no less valuable, assessments relating to character, mood and temper. Until, for instance, we learn to read the varying grades of anxiety or the attempts to mask anxiety and to detect the hidden cancer-phobia in the features or behaviour of our patients, our efforts at psychological diagnosis and handling are only partially rewarded.

Let us now leave the *physiognomy of disease* and consider other morbid aspects, and especially *decubitus* and *gaits*, both of which come within the visual quarter of our observational field. The way the patient lies in bed and the way he walks may tell us little or much. You are all familiar with the orthopnœa and dyspnœa of cardiac and respiratory disease. It would take too long to digress here into the many observable varieties of dyspnœa which eye and ear may study conjointly. The fixed rigidity of meningitis is easy enough to recognise in the advanced case. Its early recognition in a case of obscure fever and headache or in subarachnoid hæmorrhage may require the co-operation of the hands, but the decision to make the further test is often prompted

by the appearance of unwillingness in the patient to move his head from the pillow. The adoption of the knee-elbow position by a rheumatic child may be the first sign of pericarditis. Gull once surprised an anxious mother by telling her that her daughter with typhoid fever would recover before he had entered the sick-room. He had seen her sitting up in bed as he passed the door.

I need not describe to you in detail here the stamping, broad-based action of tabes dorsalis; the steppage, drop-foot gait of peripheral neuritis; the dragging spastic gait of the paraplegic and the hemiplegic; the festinant trot of the paralysis agitans; or the stiffening shuffle of old age. Their enumeration, however, brings me to the question of how we may best train our eyes to do better as time goes by. I would first of all tell you simply to make a rule of having a good look at every patient as he walks into your presence or sits or stands or lies before you. To avoid embarrassment ask a question or two by all means, but study him well meanwhile. The art of medicine is largely the art of noticing. You need to cultivate constantly both the enthusiasm and the watchful patience of the field-naturalist if you wish to obtain the full value and interest which clinical work can bring. Secondly, I would advise you—and it was of this that the gaits reminded me—to cultivate the habit of "street-diagnosis." In my ward-clerk days I and some of my contemporaries used to compete in "spotting" gaits coming over London Bridge, or facies sitting opposite to us in the tube. It is quite a good game, better than cross-word puzzles, and helps to pass the time as well as to train the wits. I often used to wonder where my social duty would lie if I saw a patient with a chancre on the lip, knowing the condition to be dangerous alike to himself and others. At last I was faced with what looked like such a lesion in a burly fellow travelling in a tram. He had a swollen, œdematous lower lip with an ugly, hard-looking scab on it and, hoping to coax him to Out-Patients, I made some tender inquiries, only to find that he had acquired it at "The Ring" a few days previously, and that it was merely the septic sequal of a straight left. "Spot diagnoses"—and please do not think that I am anxious for you ever to depend on visual diagnosis alone—are fallible, but our mistakes are salutary in themselves and can be turned to good account. In a walk from the Borough to the West End you are hardly likely to miss seeing a few pathological gaits or an example or two of the facies of anæmia, alcoholism or malignant disease. You might even keep a note-book of your "bags" and confirm your opinions by reference to the text-books at bed-time.

TOUCH

The sensitiveness of hands and finger-tips must be almost as variable as their character and shape. I believe we chiefly fail in palpation through lack of the art of "fine adjustment," to borrow a term from the microscope. It is scarcely ever necessary or useful to examine forcibly or roughly. Gross abnormalities we are only likely to miss if we are hasty or careless. But again it is the slighter abnormalities that are most valuable to us and our patients, and these are only to be detected by the cultivation of a technique which is at once gentle and searching. The texture and qualities of the skin and the hair, whether we are looking for myxœdema or testing the lost lustre in the locks of an ailing child, are assayed by the fingers as well as the eyes. The slight œdema of the skin over an empyema or other deep suppuration is more worthy of discovery than the deep and obvious pitting of hydræmic nephritis, and only the trained and expectant thumb and forefinger can do it. The tiny anal fissure, so often the cause of misleading and widely distributed pain and quite commonly missed, can be appreciated as well by the forefinger as by the speculum; the feel of the lesion reminds one of the roughness of the button-hole in the lapel of one's coat. In the abdomen minor degrees of rigidity or guarding can only be appreciated if we cultivate the gentle habit and the flat hand. The spleen, so useful in many diagnoses, and so often missed in its lesser degrees of enlargement, may escape our notice through employment of the finger-tips instead of the margin of the index finger or by palpating either too deeply or too lightly. For this reason the method of fluctuating palpation by continually varying the degree of pressure, keeping the fingers parallel to the rib-margin meanwhile, should be practised. Finger-tip palpation has no place in abdominal diagnosis unless we are defining something discovered with the palmar surface of the fingers first, or seeking for such minor abnormalities in the abdominal wall as secondary deposits or a small, fatty protrusion through the linea alba. For thrills and rubs, for appreciating the water-hammer pulse, and for testing the temperature of the skin over swollen joints or the cold extremities of collapse, the flat of the fingers is again required. For noting the qualities of the radial pulse the tips of two or three fingers may be conveniently employed. For minor roughnesses of the skin or deciding whether

a local spot is papular rather than macular I use the outer border of my little finger, as seeming to be more sensitive than the tip of the index finger. I often admire the gynæcologist for what he can discover or infer in the hidden darkness of the pelvis, but I suspect it is chiefly practice which makes him so much more skilful than I am.

HEARING

Much of what we note by our unaided sense of hearing is registered almost unconsciously. It could often be more closely analysed, and I am satisfied that if we paid more detailed attention to auditory impressions we should constantly increase their value to us.

There are the strength and the timbre of the voice which may betray, in women particularly, the degree of their indisposition and even its nature. There is a particular voice which helps to distinguish the "invalid lady" from the sick woman. Aphonia and hoarseness have their types and qualities which help us, on occasion, to assign the symptom to a more or less serious cause. But I would particularly ask your attention to coughs. They occur in such variety and the varieties have real diagnostic significance. There is the short, dry, painful, unproductive cough of lobar pneumonia. In bronchitis we find a much more noisy, effortful cough with obvious production of more or less sticky mucus, audible in the trachea and audibly expectorated, and frequently accompanied by rhonchus in the chest which can be heard without the stethoscope. There is the revolting, hawking, morning, pharyngeal cough of chronic pharyngitis best manifest in the alcoholic. There are the annoying habit-coughs of children which cause no alarm excepting to the inexperienced mother; the painful, voiceless coughs of grave laryngeal disease; the brassy cough of thoracic aneurysm; and the phthisical cough, which I find difficult to describe, although it has quite definite features of its own. It is not so effortful but, in late cases, as productive as the bronchitic cough; being less tenacious the sputum is more easily ejected; the cough is moister and unattended by rhonchus; in the very advanced case it may have a hollow, weary quality. We have also the unmistakable paroxysm of whooping-cough, with its repeated expiratory efforts, usually (but not always) culminating in the final inspiratory stridor. How often I have pricked up my ears during a ward-round and caught the eye of my house-physician in relation to his latest unsuspected admission as "bronchitis" to one of the cots. I used the adjective "unmistakable" in connection with the cough of pertussis, but it is worth remembering that a foreign body in the bronchus or a small undischarged pulmonary abscess may give rise to severe and prolonged paroxysms of coughing which are not very dissimilar.

Then we come to altered respiratory sounds, and are at once reminded of the grunting in expiration and inverted rhythm of pneumonia; the stertorous breathing and puffed-out cheek of cerebral hæmorrhage; the sibilant wheezing and prolonged expiratory phase of asthma; the Cheyne-Stokes rhythm, seen and heard, of advanced renal and cardiac disease; and the "death rattle," due partly to loss of the cough-reflex and accumulation of secretions in the pharynx and trachea and partly to falling back of the tongue. A distressing sound this, although the patient be unconscious, but, for the sake of the relatives, it is well to know that it can often be abolished by altering the posture of the head or drawing the tongue forwards.

You might suppose that the ear would not be of great assistance in abdominal diagnosis, but I would remind you that it tells us of hiccups, a grave development in peritonitis and renal disease; that the succussion splash is a most useful sign in pyloric stenosis, and that there are borborygmi which matter and borborygmi which do not. The commonest are the almost musical borborygmi of the nervous maid waiting at table. There is another curious type of rhythmical bubbling in the stomach, synchronous with the respirations, which occurs in nervous enteroptotic women who have acquired a faulty habit of abdominal breathing. These are gastric in origin. But there are also intestinal borborygmi of grave import in chronic obstruction, which synchronise with peristaltic movements, subterranean in quality and recurring at more or less regular intervals. Without putting the ear to the abdominal wall, they may be readily located in the bowel. Finally, there are sounds which I would characterise as "hollow tinklings," which may be heard in cases of paralytic distension of the gut, or again in chronic intestinal obstruction. The sense of hearing, like the sense of sight, can only be trained and put to better use by paying attention, and by deeming nothing so trivial as to be allowed to escape your notice.

SMELL

Lastly we come back to the nose. In civilised man the olfactory sense has undoubtedly lost a good deal of its primitive acuity. The sense of smell is much more easily tired than the other senses. Unfortunately, too, it is extremely difficult to describe smells. Colours and shades or shapes may be defined and given names; sounds may

be given attributes both of quantity and quality; smells can merely be likened to other smells; they may be given degrees of goodness and badness, but our descriptions are sadly lacking in precision. I shall consider diagnostic smells under four headings :—

1. The smell of the patient as a whole, as noted in conditions in which we are unable to assign the aroma to any particular excretion or exhalation.
2. The smell of the breath.
3. The smell of the excreta.
4. The smell of pathological discharges.

In the old days when the wards of the general hospitals were largely filled with fever cases, it was not uncommon to find ward sisters of experience who could diagnose a fever from its smell. Typhoid, diphtheria and measles have been reputed to be so recognisable. Mr Layton has recently told us in the *Gazette* of a dresser who had a " good nose " for diphtheria. During the war I thought that I became familiar with the typhoid smell, but perhaps through lack of concentrated experience I would not guarantee to " spot " any of the other exanthemata with my nose. I have often thought that the sweat of the phthisical patient had a particular odour, but I cannot describe it. The sweat in rheumatic fever is said to have a sour quality. Of other specific smells, the skin disease Favus has the smell of mice.

The breath has many important smells. The unpleasant breath of pyorrhœa is by no means the least important, and its presence may help to clinch a decision to treat radically mouths in which the outward appearances alone are not at first sight too bad. I have recently seen two victims of general ill-health, one with a secondary anæmia, in whom the typical pyorrhœa odour at once attracted my attention to what was probably the primary cause. The breath of an alveolar abscess and of some antral suppurations is distinctly more foul than that of pyorrhœa.

Halitosis from bowel and liver disturbances is entirely distinct in character from the odours accompanying suppuration in the mouth. It is stale and vaguely reminiscent of the smell of fæces or bowel-wind, although quite distinguishable from them. In cases of pulmonary abscess or gangrene the breath, as well as the sputum, may be as putrid as anything encountered in medicine.

Turning to more pleasant odours, we should, most of us, be familiar with the so-called acetone odour of the diabetic. I find that noses vary enormously in their ability to detect this. My own is rather acute. I have diagnosed diabetes from the foot of the bed, and I can detect the ketonæmic breath in any febrile child. I have formed the habit of asking my ward-clerks to smell the breaths of diabetic patients in the wards, and when the pleasant, faintly fruity odour is evident to me I commonly find that it is undetected by something like one-third to one-half of the firm. Apart from making the diagnosis of diabetes in the presence of glycosuria it may also quickly settle the cause of a coma, and so help to save a life.

The uræmic breath is another important one, but difficult to describe. It is only moderately unpleasant. It has somewhat fishy qualities; it is not exactly a urinous smell, and yet it is reminiscent of urine just as halitosis is somehow reminiscent of bowel contents. I have not yet determined how constantly and at what level of the rising tide of nitrogen-retention it becomes appreciable in the breath, but it has helped me to the diagnosis and prognosis of advanced renal disease and on several occasions to a recognition of prostatic uræmia in cases in which the bladder symptoms were not pronounced, the urine contained little or no albumen, and the general symptoms had previously passed unexplained.

The following case is of particular interest :—

A man, aged 56, was referred to me by Dr. Berry, of Watford, for general malaise, vague discomfort in the liver region, loss of weight, cramps and thirst. A complete physical overhaul failed to reveal any conclusive signs of disease, but I made the comment that his breath had the somewhat fishy odour of uræmia. His urine was chemically normal and showed no casts, and his blood pressure was normal. He was referred to Dr. Hurst's Clinic. Here the only outstanding findings were a blood-urea of 103 mgms. per 100 c.c. (about three times normal) and a poor urea concentration. He was thought to have a slight prostatitis, but there was no considerable enlargement of the gland. On a low protein diet he quickly lost all his symptoms, and gained weight, and now (two and a half years later) does his full work and plays 36 holes of golf each Saturday and Sunday.

In cases of pyloric stenosis and obstruction there are frequently eructations of sulphuretted hydrogen. A description of " rotten eggs " by the patient or a relative has many times helped me to suspect or confirm the diagnosis. In gastro-colic fistula " bowel-wind " is eructated.

It is clearly, on occasion, of the first importance to detect alcohol and drugs such as paraldehyde in the breath.

I have mentioned the exceedingly putrescent foulness of the sputum in pulmonary abscess and gangrene. In bronchiestasis the sputum is usually less foul, and it may be merely heavy, mawkish

and musty. In pulmonary tuberculosis the odour is slight and almost sweetish.

The urine has the same pleasant fruitiness as the breath in untreated diabetes. In bacilluria it is characteristically unpleasant and "fishy." The damp ammoniacal odour above the bed in urinary incontinence may give an early hint of the gravity of a case or in neurology of spinal cord involvement. Fæcal unpleasantnesses are very numerous and variable, but in ulcerative colitis they are of a constant type and particularly objectionable. Fatty stools from pancreatic or mesenteric disease are rancid. The smell of a "fæcal fistula" discharge is distinctive and separable on the one hand from the ordinary smell of fæces and on the other from that of pus infected with bowel organisms. The surgeon draws useful conclusions from the relative sweetness or foulness of purulent discharges both in respect of their nature and the progress of the case.

It is a natural inclination to avoid dalliance over pathological odours, and yet it is clearly our duty to improve our acquaintance with them. I would advise you, therefore, to train your noses in respect of breaths, sputa and urines in particular, and to remember that they may occasionally give you just as valuable information as the laboratory, and in much quicker time. The nose may also be trained in the street and garden to sift and analyse smells which are ordinarily passed by.

Our final opinion, of course, in any case is based upon a compounding of sense-data and an analysis by the mind of all the information we have collected by all the means at our disposal. The more accurately, however, we observe with our special senses, the more judicial will our choice of other methods be and the more accurate the final opinion. Do not think that the few illustrations I have given you are intended to do more than indicate the range of possibilities open to your unassisted eyes, hands, ears and nostrils. Your daily life in clinical medicine will furnish you with others in plenty, some which are old and familiar and others which you will reveal to yourselves. I am conscious of having omitted certain distinctive observations now inaccessible in the lumber-room of my memory. The fact that they are inaccessible only shows that I did not attend to them at the time or register them afterwards as carefully as I should. Nothing in medicine is really so insignificant as to merit inattention.

Perhaps I can scarcely do better than conclude with an instruction from Hippocrates, the first great exponent of the observational method—the first to describe, among other signs, the curved nails of empyema, the speechlessness and stertor of apoplexy, and the frothing urine and the grave import of hiccup in kidney disease :—

"With regard to diseases, the circumstances from which we form a judgment of them are : by attending to the general nature of all, and the peculiar nature of each individual ; to the disease, the patient and the applications ; to the person who applies them, as that makes a difference for better or for worse ; to the whole constitution of the season, and particularly to the state of the heavens and the nature of each country ; to the patient's habits, regimen and pursuits, to his conversation, manners, taciturnity, thoughts, sleep, or absence of sleep, and sometimes his dreams, what and when they occur ; to his picking and scratching ; to the deposits, whether of a deadly or critical character ; to the sweat, coldness, rigor, cough, sneezing, hiccup, respiration, eructation, flatulence, whether passed silently or with a noise ; to hæmorrhages and hæmorrhoids ; from these and their consequences we must form our judgment."

We have come, and rightly, to rely upon numerous refinements in diagnostic method, but it would be difficult to imagine a more sound and concise exhortation than this to the study of the presenting evidences of disease.

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(The enclosed caricature came into my possession the other day. It was drawn during the War by a patient under Mr. Fagge from Flanders. It shows, I think, that then, as now, "Chubby" was held in more than ordinary affection.—E.A.R.B.)

AT the first meeting of the season we were fortunate in having Dr. W. C. C. Pakes to take the Chair.

Dr. PAKES who may claim to have founded the Society, gave us some account of its earliest meetings. These, he said, were held among certain of the more junior men in the hospital exactly 40 years ago. It was interesting, he observed, to recall that Sir Frederick Gowland Hopkins, who recently delivered the 1933-34 Opening Address and presented prizes in the Medical School, had, in his dissecting-room days, been the first member of the Society to propose a motion.

The Chairman expressed his pleasure in returning to Guy's to take part in yet another meeting of the Debating Society. He then called upon Dr. Blacker to propose that "This House views with concern the Growth of Fascism in Europe to-day."

Dr. BLACKER firstly declared his sympathy with Fascists in that they had been subject to much misrepresentation and ridicule. He expressed his admiration for the courtesy and consideration shown him by the British Union of Fascists when he had been in pursuit of information on the subject.

Sir Oswald Mosley's "Greater Britain" was, he said, an admirable book with which he was in some measure of agreement, but this did not deter him from expressing "concern" about the growth of Fascism in Europe.

The internal policy of Fascism, comprising the formation of the Corporate State and a system of occupational franchise, had something to be said in its favour, but the foreign policy, particularly of Continental Fascists, gave cause for alarm.

There were differences between Italian and German Fascism, and since the accession to power of Hitler the prestige of Mussolini had improved by favourable contrast with the former in matters of foreign policy, particularly after the formation of the Four-Power Pact.

The internal policy of Herr Hitler also perturbed him, not so much as it was manifested in fatuous decrees about feminine fashions, but in its most reprehensible eugenic outlook.

Hitler had suppressed birth control. He had backed his jingoistic glorification of Germany with propaganda urging "pure" Germans to "breed," to increase and multiply for the strengthening of the race. This, together with the foreign policy of Germany in regard to the "danger spots" of Europe—the Saar territory and the Polish Corridor—gave the gravest concern at the growth of Fascism in Europe.

The Chairman then called upon Mr. Joyce, of the British Union of Fascists, to reply.

Mr. JOYCE congratulated himself, as a Fascist, on having almost completely converted Dr. Blacker to his creed. He further claimed that others of his audience would be won over in the course of the debate.

Fascism, he said, did not make for war, but was, on the contrary, the only force which could save us from dangerous parliamentary blunderings and establish a sound psychological basis for peace. The differences between separate national forms of Fascism could be neglected, as the fundamentals were the same beneath them all.

Fascism stood for dictatorship. Here he was prepared to meet Dr. Blacker, and no bones were to be made about this point. The Roman Empire had fallen because the State had failed strongly enough to dictate. The principles of heredity must be adhered to if we were to have real leadership. The present aristocracy was corrupt, degenerate and parasitic. It was not fit to rule. A knowledge of the principles of genetics would enable a choice of the person most suited for dictator to be made. Many people had said that when Mussolini died it would be an end of dictatorship in Italy. He (Mr. Joyce) knew that adequate provision had been made for such an eventuality, so that a successor would be found.

Democracy was a perverse practical joke that had done too much mischief already, and as such must be destroyed. The prevailing economic system must also be destroyed, but Fascism did not intend to interfere with private property.

Dr. RYLE, in seconding the motion, said that in discussing Fascism we might consider three things : its ideal, its policy, and its actual methods of action. With the first, if it was as he took it to be, " the greatest good for the greatest number," then we could not but agree with it ; such an ideal was common to us all. With the policy of Fascism, in its extreme nationalism and in its repression of individuality, he could not agree. He remarked on the oddity of Fascists ever having chosen St. Francis of Assisi as a patron saint, and suggested that, after expounding their beliefs, they might fittingly change their saints to suit their creed.

To the methods of Fascism Dr. Ryle was uncompromisingly opposed. They fostered military pride in youth, they denied personal freedom, their methods were similar to those of Communists in their application of crowd psychology. While Fascism was a menace elsewhere, he believed that in England it was a mushroom growth with no future whatever.

Mr. THOMPSON, of the British Union of Fascists, seconded the opposition. He declared that in Communism the Fascists found an enemy, but what they really set out to fight was the spirit of Liberalism. The ideals of the French Revolution had destroyed the soul of the nation. The Manchester school of Liberal democracy, with its pernicious doctrine of *laissez faire*, was largely responsible for our present dilemma and consequent rise of Communism. The solution to our troubles lay only in the resolute ordered economy of the Fascist State.

The motion was then thrown open for general debate.

Mr. MANN rose to defend the French Revolution. He considered that its principles were fundamental to progress, and that any movement which made light of them was wrong. Liberty, he explained, did not mean the facility to get a drink at any hour one chose ; it was an ideal more noble and altruistic than that. And the watchwords of Liberty, Equality and Fraternity formed the basis of modern democracy. It was by the defence of such ideals as were set forth in the Social Contract of Rousseau that modern civilisation stood or fell.

Mr. Voss declared that nowhere in Fascist literature had he detected a trace of economic theory. He assumed that of this rather important factor in a policy the Blackshirts were completely innocent. Since Fascists did not propose to tamper with the means of production, but rather to leave them in the hands of private individuals, he supposed that the prospect they offered was not radically different from the existing system, plus dictatorship and violence to the working class.

Mr. K. H. WALKER said that he had read enough about heredity to be sceptical when the possibility of controlled selective breeding was asserted. On the same grounds he objected to the fantasia of German race theory.

Mr. DUNSTAN remarked upon the lack of economics in the Fascist programme and belittled the Corporate State, describing it as, at the best, a secondhand contrivance and one which had proved unworkable.

He objected to the identification of Fascism and Sovietism, whether in methods or principles ; the two were diametrically opposed. It was futile for Fascists to deny, or attempt to resolve, class antagonisms if they intended to preserve the private ownership of all productive enterprise. Not the least fantastic claim of Mr. Joyce had been that the last Nazi revolution was the greatest since the Renaissance. What could be said about the Russian revolution, had it not put all other revolutions in the shade ? Those who valued freedom and hated oppression, who fought for liberty and real democracy, must not only express concern about Fascism but must fight it.

Mr. CARDEW did not share with a previous speaker his antipathy to the Latin races ; he believed that in a strong triangular pact between France, America and Britain, three great liberty- and peace-loving countries, lay some hope of international conciliation.

Mr. LAYTON lead off with a familiar aphorism—that you cannot do good by doing evil. He believed that no good would ever come of the grievous wrongs that had been wrought in the name of Fascism abroad. He described Fascism as a big bully. Mr. H. G. Wells had described it as a " clumsy lout," but a clumsy lout might well enough be an amiable fellow—" one had them in the Front Surgery, and they might annoy one by playing subconscious football with the oxygen cylinder, but were otherwise beyond reproach." He did not share Dr. Ryle's equanimity with regard to the prospects of Fascism in England ; he thought, on the contrary, that it was gravely to be feared. " Do not be frightened into joining the Fascists," he said, " for fear of being called a Communist." We were not, in his opinion, destined to the alternative of Fascism and Communism, but if this were indeed the case he, personally, would side with Communism.

Mr. R. V. COXON, with reference to the speech of Mr. Cardew, made some remarks about the eternal triangle.

Mr. BUCKMASTER spoke strongly against dictatorship, and referred to Mussolini in uncomplimentary terms.

A visitor from the British Union of Fascists, who gave his name as Dr. A. M. A. MOORE and described himself as a "mere surgeon," spoke favourably of the Nazis. He had been to Germany and drawn inspiration from the post-revolutionary youth. He spoke of the sham and mockery of free speech in England, citing examples of injuries he had had to dress when B.U.F. speakers had met with a warm reception from working-class audiences. He was hotly indignant that Britishers could have acted thus. After nine months' careful study of the subject he was convinced that Fascism was the only hope for England.

Mr. JOYCE, in summing up for the opposition, informed us that the scar on his face came not from Heidelberg but from South Lambeth. He did not deny to his fellow Fascists abroad their right to their own tactics and principles; he warned us that Fascism was the only effective opposition to Communism. He advised Mr. Layton to study Nietzsche. He then embarked upon a scathing indictment of economists and their general worthlessness and ineffectiveness (at this point he was interrupted by someone calling, "What about Karl Marx?"), and then referred us to certain well-known works by German and Italian authors for the study of Fascist economics.

Dr. BLACKER confined his reply to a quotation from Sir Oswald Mosley's book, to the effect that Continental Fascism was not the desirable form for Britain.

The motion was then put and carried by a large majority, only eight voting against out of a meeting of about a hundred and fifty.

The evening ended with a hearty vote of thanks to Dr. Pakes for coming to take the Chair and to our visitors from the British Union of Fascists for their attendance and speeches.

Such an interesting and well-attended meeting augurs well for the success of the forthcoming season.

Some Common Varieties of Gingivitis

A Paper read before the Guy's Hospital Dental Society, on October 14th, 1933, by L. B. Holmes, Esq.

MR. CHAIRMAN and GENTLEMEN,—The subject of the paper to-night does not, I think, receive sufficient attention in proportion to its importance in conservative dentistry. When one realises that 75 per cent. of the teeth of persons over 35 years of age are lost through neglect of the gums resulting in pyorrhœa, the importance of a thorough knowledge of the subject cannot be over-estimated. In nearly every case the teeth could have been preserved by correct treatment at the proper time. It is because diseases of the gums are so insidious in their onset and progress that they are often in an advanced stage before the patient realises that there is anything wrong. Therefore, it is important that we should recognise such lesions when they appear, possess a working knowledge of the subject and apply the appropriate treatment.

Any inflammation of the gums is called a gingivitis, which is quite a comprehensive term and includes several and varied forms. Normally, the gingival trough is rendered intact by the presence of leucocytes, which cause the removal of bacteria. When, however, conditions are such that they favour the retention of bacteria in the gingival trough, then a gingivitis results. This may vary in severity from a slight reddening or thickening of the gingival margin to a condition in which the gums bleed freely under pressure and are thick and of a bluish-red colour. Persons of any age and sex may be affected, although the trouble is more likely to arise at certain periods when there is an unfavourable environment, such as the eruption of the permanent teeth and in children wearing plates for orthodontic purposes. There are certain positions in the mouth which are predisposed towards the condition: an inflammatory reaction is often seen in the gums around the upper six anterior teeth, the rest of the gums being normal. This occurs in habitual mouth-breathers, and the obstruction is due in some cases to hypertrophied tonsils or adenoid growths in the naso-pharynx, so that until the normal function of nose-breathing is restored the anterior gingivitis cannot be cleared up. Other common sites are in the lower incisor and upper molar regions, where salivary calculus or tartar is most liable to collect. From these regions the inflammation may spread readily and quickly to other parts of the mouth.

The local causes are due to factors which produce stagnation in the mouth. Of these the most important are:—

1. A lack of oral hygiene, with which is associated neglect to clean the teeth and gums, so that micro-organisms are present in abnormally large numbers.

2. Irregularities of the teeth, usually present in conjunction with a crowded arch, cause retention of fermentable food around the misplaced teeth. In a functional mouth there is close apposition between the gums, cheeks and tongue, with a consequent self-cleansing action. When a tooth or teeth are out of alignment, there is lessened friction and an increased disposition for stagnation to occur.

3. The formation of tartar in association with the leptothrix buccalis under the sub-gingival epithelium around the necks of teeth is a common cause of irritation of the gum margin. This occurs most commonly in mouths in which there is an increased alkalinity of the saliva, the deposition being the result of an attempt at the compensation of alkalosis.

4. The injudicious use of a stiff tooth-brush will cause direct injury to the gum, which shrinks away from the teeth and has an abraded appearance. This condition is more marked in the left upper jaw with right-handed people and in the right lower jaw with left-handed people.

5. Not infrequently, patients wearing partial dentures develop gingivitis, which is the result of irritation of the dentures, lack of cleanliness and the collection of food around the teeth. Never, under any circumstances, should patients be recommended to wear their dentures, partial or otherwise, during the night. If once the habit of sleeping with dentures in place is contracted, it is difficult to overcome.

Apart from local causes, there are certain general factors which play an important part in the causation of diseases of the gums. An unbalanced and unsuitable diet is one of the chief pre-disposing causes, in that it consists in preponderance of refined carbohydrate in the form of white bread, cakes and potatoes. Food of this type is soft and does not promote efficient mastication, which results in a lessened afterflow of saliva and decreased self-cleansing action. Lack of Vitamin C, occurring in the citrous fruits—lemons, oranges and grape-fruit—is also held responsible for unhealthy gums. Adverse conditions occur in the mouths of those who are not in good health, which may be due to confinement indoors and lack of sleep. Other contributory causes are over-eating and over-exertion, the latter bringing about a lowered tissue resistance to disease. Mention may be made of the excessive use of certain drugs, such as mercury and arsenic in anti-syphilitic treatment; also of debilitating diseases, notably diabetes, alcoholism and influenza.

The varieties of gingivitis may be dealt with under three headings, simple, acute and chronic, the differentiation being merely nominal, as one variety may merge imperceptibly into another. In a simple or marginal gingivitis the gums appear red, soft and swollen and the condition is more evident at the gum margin. The gums bleed easily under slight pressure, which is usually the only symptom of which the patient complains. A fine probe can be passed into the sub-gingival trough for a distance varying from 3 to 5 millimetres, according to the severity of the inflammation. Quite often, in this variety, the patient is unaware that there is anything abnormal, and the trouble will clear up spontaneously when function of the mouth is renewed and the general health restored.

We now come on to treatment of this variety, and in treating simple gingivitis the same rule applies as in the treatment of other diseases, and that is, removal of the cause. If the latter is due to lack of oral hygiene, this must be emphasised as much as possible, but if the patient will not co-operate, then we are only wasting our time in attempting anything; we must watch for the type that *will* respond.

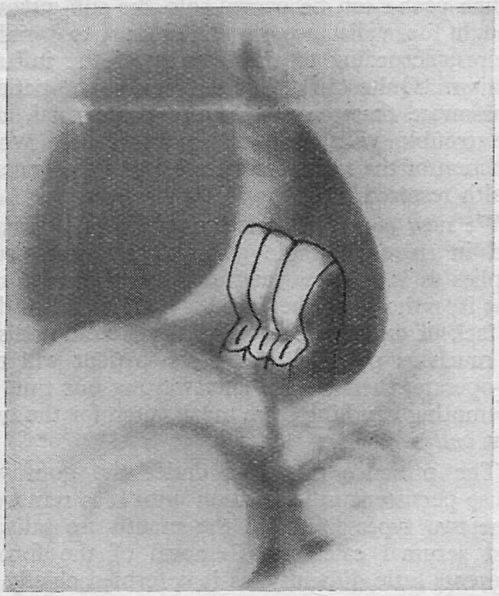
The presence of tartar under the gum will cause persistent inflammation until it is removed. The two types found in the mouth are salivary and serumal calculus. Removal of the former presents little difficulty, as it is formed chiefly on the outer and inner surfaces of the teeth. This is the only variety formed by precipitation from the saliva. Serumal calculus, on the other hand, is formed in connection with the serous exudate and pus in gum lesions, and is found more frequently on the approximal surfaces of teeth. It is exceedingly tenacious, so that scaling will be prolonged and tedious in order to remove every particle.

The gums are easily injured by a stiff tooth-brush which is used in a horizontal, instead of a vertical, direction. The use of a brush with softer bristles is advised, combined with less vigorous effort; instruction can be given, at the same time, as to its correct use.

When seeking for the cause of congestion of the gum around certain teeth, the possibility of traumatic occlusion should not be overlooked, as quite often the mouth appears otherwise normal and there is no indication whatsoever of the cause of the trouble. If there is evidence of traumatic occlusion, in which one or more teeth are bearing an abnormal strain during mastication, the bite is relieved by stoning down the offending teeth or

by supplying dentures to support the uneven strain.

The causal factors having been eliminated as far as possible, the use of different drugs can be considered, amongst which are included astringents counter-irritants and antiseptics. An astringent is employed to contract the tissues and to check any discharge that may be present; it acts by coagulating the protoplasm of the surface layer of cells and constricting the vessels.



Tooth-brush erosion, involving pulp chambers which have become obliterated by secondary dentine.

Amongst the astringents in common use are tannic acid, alum, tincture of iodine and zinc chloride. It is usual to prescribe an application consisting of equal quantities of tannic acid and glycerine, to be used once a day. Massage should be performed with the application on the thumb and index finger in a systematic manner, working around the inner and outer surfaces of the gums of both jaws; in the lower jaw, the direction is from below upwards; in the upper jaw, from above downwards. Counter-irritants are useful not only in causing a free flow of blood through the part, but also in irritating the superficial nerves and reflexly relieving pain. A strong solution of iodine or tincture of aconite and iodine are employed for this purpose; also Wynne Rouw's solution is used at this hospital, which is a saturated solution of iodine in zinc iodide and glycerine. Antiseptic mouth-washes can also be used with advantage, the chief of which are carbolic acid (2½ per cent.) and hydrogen peroxide (10 volumes), both to be used with an equal volume of hot water after meals, particularly before retiring.

If the gingivitis persists, it may become acute or chronic, according to conditions prevailing in the mouth and to the general state of health. When the inflammation is acute with a superimposed infection by certain organisms, an ulcerative gingivitis or Vincent's angina supervenes. This disease is essentially infectious, and great care must be taken in sterilising instruments after treatment. It occurs in children and, in an epidemic form, amongst adults. If untreated, it may proceed to a fatal termination.

In the early stages the gums are swollen and congested without formation of pus. Ulceration at the free edge then occurs and spreads rapidly to both jaws; there is extreme sloughing with necrosis of bone and loosening of teeth with oozing of pus. At a later stage the mucous surfaces of the cheek, tonsils and pharyngeal wall are involved, when the condition is known as an ulcerative stomatitis. There may or may not be a rise of temperature to 100° or 103°; the tongue is furred, the cervical lymphatic glands enlarged, the breath fœtid, and there is a feeling of general malaise.

The causative organisms are the bacillus fusiformis and the spirochæte Vincenti, both of which are always present in large numbers. The bacillus is a long rod, slightly pointed at each end and staining with Gram's stain. The spirochæte is in the form of a spirillum, which does not show up so clearly. A slide to confirm a diagnosis of Vincent's angina can easily be prepared on the spot, using methylene blue as the stain.

During the acute stage, scaling and extraction of any roots and loose teeth must be deferred until there is a definite improvement, as, if operative treatment is carried out too soon, there is a danger of the organisms gaining access to the blood-stream and giving rise to a septicæmia. Local treatment consists in isolating the gums with cotton-wool and applying with conveying tweezers chromic acid (5 per cent.) and then hydrogen peroxide (10 volumes); oxygen is liberated and destroys the organisms in the depths of the pockets. Another method is to apply trichloracetic acid (40 per cent.) to the ulcerated part, which becomes loosened and is cast off. Other lines of treatment include daily atomising with hydrogen peroxide and the local application of ipecacuanha and arsenic. Potassium chlorate can be used as a mouth wash and given internally in the form of tablets, when it is secreted in the saliva and gives off oxygen in intimate contact with the gums.

Attention should be paid to the general condition of the patient. No work should be done and plenty of fresh air and sunlight together with a nourishing diet should be taken. Fresh fruit and plenty of liquid are also necessary, and in order to build up the bodily resistance a tonic should be prescribed.

From an ulcerative stomatitis, the disease may progress to a gangrenous stomatitis or cancrum oris, in which there is a large and extensive perforating ulcer of the cheek; the prognosis is bad.

The chronic cases of gingivitis are rather more difficult to deal with on account of their long-standing history and the fact that the gum tissue is chronically enlarged. The enlargement may be local or general, according to the cause. A localised hypertrophic gingivitis is due to chronic infection and irritation around ill-designed bridges and crowns, the sharp edges of carious cavities on the gum margin, and badly executed fillings. In connection with interstitial fillings, we must take especial care not to leave any edge between the filling and the tooth below the gum which is liable to become irritated as a result. The affection arises in the immediate vicinity of the cause and is brought about by localised congestion, followed by secondary infection by bacteria of a low type of virulence.

One must look carefully around the mouth when there is a history of an appearance of blood in the mouth, especially after brushing the teeth, together with a bad taste which is more noticeable in the morning. The patient is usually cognisant of the trouble, but rarely complains of any pain. On this account the condition may continue for months until relief is sought, by which time an epulis or a polypus of the gum may have formed.

The hypertrophy and stagnation will not respond to treatment until the causal agency is removed, which is not difficult to detect. When this is accomplished, astringents and counter-irritants can be applied to restore the gum to normal. It may be necessary to remove the hypertrophied gum with an electric cautery, and, in the case of an epulis, to extract the teeth on either side of the growth.

A hypertrophic gingivitis that has become generalised is characterised by an enlargement of the gingivæ and inter-dental papillæ, so that the gum tissue extends for a varying distance on to the crowns of the teeth. At first only the gum tissue is involved, but later the alveolar process becomes affected. This variety is common and pronounced in children who are addicted to mouth-breathing, which is due primarily to some form of nasal obstruction. In some cases, but not all, the presence of adenoids and enlarged tonsils is the cause of obstruction to normal respiration. It happens quite frequently that, although the mouth is habitually open, there is little or no mouth-breathing, but the anterior gingivitis is still present on account of the general dryness in that region. Protrusion of the upper incisor teeth caused, amongst other things, by thumb-sucking and a short upper lip, will bring about an abnormal forward position of the gum tissue, and cause it to be out of its normal environment.

The free edges of the gum are red, œdematous, and bleed easily under very slight pressure. The surface of the hypertrophied gum is irregular, distended and nodular. Pain, which is rarely present, is slight, but there is frequently some tenderness or discomfort. The breath is fœtid, more especially so to a second person, and the mouth generally is in a dry condition. This dryness occurs more often on the gums around the anterior teeth, owing to the absence of saliva and the hypertrophy resulting from lack of labial pressure.

The presence of bacteria accentuates the inflammatory reaction by second infection, which is due, not to any particular variety of bacteria, but to the non-specific organisms normally present in the mouth.

It happens sometimes that the disease will clear up spontaneously when its causative factors are removed, in which case, if it is not in an advanced condition, no treatment is necessary. If this does not occur, the gum tissue becomes fibrosed and permanently thickened, and the gingivitis passes from the sub-acute to the chronic stage. The infection spreads deeply with pocket formation and affects the alveolus; the teeth become progressively loose, and eventually are lost.

The importance must be stressed of restoring normal nasal breathing with closure of the mouth before any attempt is made to treat the local lesion. Then we can consider whether it is advisable to perform a gingivectomy, which is usually necessary in long-standing cases, when all the redundant gum tissue is removed. At the same time the mouth must be kept clean and steps taken to prevent further stagnation by the treatment already outlined for simple gingivitis.

When treating chronic cases, ionic medication or dental electro-therapy is often of use. The principle involved is the cleansing of deep pockets and spaces by means of an electric current whereby an antiseptic or astringent agent is introduced into the deeper tissues. The electrolyte usually employed is a 5 per cent. solution of zinc chloride, which has an astringent action. In connecting up the poles, one will not go wrong if it is remembered

that metallic ions, being electro-positive, proceed to the negative pole when they come into close association with the tissues and debris in the depths of the pockets. Therefore, the positive pole dipped into the electrolyte is applied to the pockets, the negative pole in contact with some other part of the body such as the wrist. A small current of from 2 to 4 milliamps. is passed, due care being taken to prevent pain in making and breaking contact, and two to three minutes may be taken over the pocket around each tooth. The disadvantage with this process is that it is tedious, but nevertheless, good results are obtained from its use. An intractable chronic gingivitis can often be cleared up in this way when other treatment has been of little avail.

Before concluding, I should like to add a few remarks concerning factors that are of importance not only in assisting to clear up a gingivitis, but also in maintaining the gums in a good state of health. It is generally recognised that the soft food that the majority of people eat at the present day is not only detrimental to their health, but is definitely injurious to the teeth and gums. The diet should include material that really requires *chewing*, and that brings the masticatory apparatus into full play. It is a delicate task to instruct people what to eat and how to eat it, but so many people eat the wrong food not through sheer perversity but through ignorance of the best suitable diet. Patients must also be brought to realise that the condition of their gums is as important as the state of their teeth, that gum massage should be included in the scheme of oral hygiene, and that neglect to recognise these facts will inevitably lead to disease of the gums and loss of the teeth. So many have the impression that teeth are temporary affairs at the most, and that the time will inevitably come along when they must be lost, so that loss of teeth after middle age is regarded almost as a physiological, and not a pathological, fact. This is, unfortunately, too often the case, but it is due in many cases to the fact that the gum lesion has been chronic over a number of years, dating sometimes from youth. It cannot be too clearly emphasised that the final stage of pyorrhœa, with its loosened teeth, softened and necrotic gums, actually commences with a mild but chronic infection of the gingival margin. It is when the gums are affected in the earliest stages that treatment is not only possible but extremely favourable, and that instruction can then be given which will assist in preventing a recurrence of the disease.

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Hens—A Country Correspondence

SIR,—Perhaps this correspondence between my next-door neighbour and myself may interest some of your readers.

"Red Acres,"
Cowfold, Kent.
1st September, 1933.

John Hogg, Esq.,
Mud Farm,
Cowfold, Kent.

Dear Sir,

The hens who have their abode in your field are making a practice of coming into my orchard, presumably seeking sustenance. While at the moment I have no objection to their doing so, in the near future, when I shall be sowing grass seed on the tennis lawn, their presence will be highly inconvenient.

Furthermore, the poor birds quite unconsciously excite my dog, who, not unnaturally, chases them off my ground. Indeed, it is only due to the most active measures on the part of the members of my household that the fowls have so far escaped death in such encounters.

Of course, you will appreciate that I cannot be held responsible for any fowls so killed on my property.

I would suggest, therefore, either the removal of the birds to some more remote spot or their confinement in a run of some kind.

Yours faithfully,
E. A. R. BERKLEY.

"Red Acres,"
Cowfold, Kent.
8th September, 1933.

J. Hogg, Esq.,
Mud Farm.

Dear Sir,

Thank you for the kind consideration you have doubtless given to my letter of the 1st September. I regret that your deliberations have produced no

tangible result either in the form of an answer to my letter or your placing any restriction on the activities of your hens.

The birds are now in the habit of making their breakfast from the contents of my dust-bin, the lid of which they remove with a dexterity which is truly remarkable. While they are welcome to the contents of my dust-bin, I cannot but deplore the noise occasioned by the falling lid at so early an hour in the morning.

The date for sowing my grass seed is drawing near, and my gardener has orders to shoot all birds consuming the seed.

Yours faithfully,
E. A. R. BERKLEY.

Mud Farm,
Cowfold, Kent.
8th September, 1933.

Dear Mr. Berkley,

Your letters to hand if any of my fouls is shot I'll shoot your dog the birds is harmless and not no nusance to nobody as Mrs. Hogg ses and my sister Miss Hogg. If you want to keep the birds out why don't you build a brick wall and keep them out of your orchard which you have no wright to shoot them whatsoever you may say to the contrary.

Yours truly,
JOHN HOGG.

"Red Acres,"
Cowfold, Kent.
9th September, 1933.

J. Hogg, Esq.,
Mud Farm.

Dear Sir,

Thank you for your admirably expressed note of yesterday's date.

Your suggestion concerning a brick wall, though in the main sensible, I have been forced to reject on the grounds of expense.

With reference to your amiable threat to shoot my dog, I must tell you that you would have to do this on my property, as the animal is too large to penetrate the fence dividing our land. Shooting my dog on my land will bring you under the law, which I shall not hesitate to invoke.

Yours faithfully,
E. A. R. BERKLEY.

"Red Acres,"
Cowfold, Kent.
15th September, 1933.

J. Hogg, Esq.,
Mud Farm.

Dear Sir,

Perhaps it will interest you to learn that the eggs your hens have been laying in my potting shed are of superlative quality, and I enjoy a couple with my prandial bacon.

Yours faithfully,
E. A. R. BERKLEY.

"Red Acres,"
Cowfold, Kent.

J. Hogg, Esq.

Dear Sir,

I must express my sincere gratitude to you for the removal of your hens. My grass seed is being sown to-morrow.

Yours faithfully,
E. A. R. BERKLEY.

Correspondence

Reading-Room Practices

To the Editor of the GAZETTE

SIR,—I feel that it is high time that reference was made to certain practices in the College Reading Room.

There has always been a deplorable habit of excising pictures from the illustrated papers, but recently this habit has been checked by some high-minded gentlemen.

One appreciates their anguish of mind when they discover a torn and mutilated page which once enshrined the likeness of some ravishing beauty. But while understanding the spirit of their action, one cannot help but condemn complete removal of the magazine as being a somewhat drastic cure.

May I appeal, Sir, to these gentlemen to leave the magazine in its cover and in the Reading Room, at least until the week-end, that those who spend their Sundays under this roof may find solace in the doings of their brethren in the Sunny South.

I should also like to suggest that the daily papers be delivered to the College porter and placed in the Reading Room by 9 a.m. Many of us start our duties at 9.30, and if the papers are not visible before then, the next opportunity that presents itself is in the evening. Surely one has the right to read one's morning papers in the morning.

Yours, etc.,
H. A. HAMILTON.

The College,
Guy's Hospital, S.E.1.

Sport

Rugby

Guy's v. United Services

AT Portsmouth, on Saturday, October 7th, Guy's had to admit defeat by a placed goal, a goal from a mark, and a try (11 points) to a try (3 points).

With the exception of the last quarter of an hour, Guy's held the upper hand and did everything but score, and then Cowgill, the home full-back, gathered a punt near his own 25 and raced away with the ball and passed to Elliot. The latter had his threes in attacking formation on his left, and the Guy's defence, who were caught napping by Cowgill's tactics, tried to get across to cover the Services' back division, but Elliot saw his chance, ignored his threes, and, with a brilliant burst, swerved clean through the Hospital defence for a try behind the posts, which Forrest converted. This was very bad luck for Guy's, as up to this point they had kept the Services on the defensive and should have established a comfortable lead.

Forrest kicked a goal from a "mark" ten minutes after the start, and a little later Elliot just missed with drops at goal. The Hospital forwards then began to control the scrummages, especially during the early part of the second half. Twice Steytler cut through and caught the defence on the wrong foot, and on the first occasion he sent Wright over for a try in the corner.

After the Services had survived a series of attacks by Guy's, Cowgill changed the course of the game and initiated the movement which led to the try by Elliot already referred to.

A little later Davies broke away on the blind side of the scrum and flung out a long pass over the heads of the pack to Farnol, who managed to cross for an unconverted try.

Team.—W. B. Clegg; A. G. Johnson, J. Van A. Steytler, P. C. Alexander, C. G. Wright; V. H. Bowles, J. E. Giesen (Capt.), R. J. Drummond, D. M. Leeming, A. R. Clarke, T. A. Hale-Munro, M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin.

Guy's v. Northampton

GUY'S visited Northampton on Thursday, October 12th, and were defeated by 3 placed goals and 4 tries (27 points) to a placed goal and 2 dropped goals (13 points).

Both teams fielded several reserves, but, nevertheless, a bright open game was seen. Baillon, the Northampton full-back, was a tower of strength to the home side, and he was mainly responsible for keeping his line intact until just before the finish.

Northampton made a very strong start, and within ten minutes they registered two unconverted tries. Guy's began to find their feet, and eventually Giesen dropped a magnificent goal from 50 yards' range. Before half-time the home team went further ahead with tries by Percival and Allison, and the latter Baillon converted.

Giesen reduced the lead soon after the interval by dropping another goal for Guy's, but Northampton quickly responded with tries by Willows (2) and Weston—Baillon and Weston each converting one.

Near the end Peacock finished off a fine round of passing by scoring in an easy position for Kark to convert.

Team.—W. B. Clegg; H. C. Hamilton, C. G. Wright, J. V. A. Steytler, J. V. C. Peacock; J. E. Giesen, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, D. M. Leeming, A. R. Clarke, G. J. V. der Merwe, T. A. Hale-Munro, P. H. Crampton.

Guy's v. Old Blues

FOLLOWING their reverses at Portsmouth and Northampton, Guy's were in brilliant form for their home match against the Old Blues on Saturday, October 14th, when they were successful by the overwhelming score of 5 goals (1 dropped) and 4 tries (36 points) to a goal and a try (8 points).

Heavy rain preceded the match, and, consequently, the greasy ball was difficult to handle, but Guy's adapted themselves to the conditions much better than their opponents, and their backs handled with remarkable accuracy and precision.

The form of the Hospital fifteen was a revelation, and if they can only maintain the confidence shown in this game then they have nothing to fear from the opponents whom they have to meet in the near future.

Since the season commenced Bowles, at scrum half, has improved by leaps and bounds; he made an admirable partner to Giesen, who was also in rare form. The Guy's Captain was again a source of inspiration to his side, and with Alexander supporting him in every movement the backs were able to engineer numerous attacks which brought success or came very near.

Robin led the forwards in magnificent style and the pack responded nobly; they were excellent in the set scrums, and their marking in the line-out was decidedly better than that shown previously.

Within two minutes Guy's scored an unconverted try, when Giesen, after being checked on the line, received a nice pass from Hale-Munro and dashed over for a try. The Old Boys attacked strongly from the kick-off, but over-anxiousness cost them a penalty and Clegg found touch in their 25. However, the visitors again attacked, and after Guy's had touched down, Jones made a fine run and touched down too far out for Pearce to convert.

This was followed by some smart passing between Bowles, Giesen and Steytler, who sent Alexander along to create an opening for Wright, to dash over in the corner for an unconverted try.

Another combined effort between Steytler and Alexander saw the latter deceive two opponents before sending in Johnson for a try behind the posts, which Alexander converted.

Just before the interval Giesen sent Alexander through and Steytler simply walked in behind the posts, but the kick at goal was charged down.

A surprise interception by Gilbert brought an unexpected success to the visitors, and Farnes raced in near the posts for Pearce to convert.

In the second half, Guy's were irresistable and scored at regular intervals. They should have registered a try in the first few moments, when Giesen cut through beautifully before passing to Steytler, but the latter hung on a bit too long and was tackled in possession. Following severe pressure in the Old Blues' 25, Giesen received from Bowles and dropped a splendid goal from 30 yards' range.

Wright was next conspicuous in a fine solo effort in which he deceived three opponents, and a little later Bowles stole away on the blind side of the scrum and was only stopped a few yards from the line. A combined passing movement between Giesen, Alexander and Wright ended in the latter crossing, but Alexander hit the upright with the goal-kick.

The next score came as the result of a fine effort by Clegg, who, receiving the ball inside his own half, ran diagonally across field, caught the defence on the wrong foot, and sent in Giesen with a splendid try, which Alexander converted. This was quickly followed by a try by Steytler after Clarke had created the opening, and again Alexander had no difficulty in adding the goal points.

Near the end another great round of passing between the threes enabled Steytler to send in Johnson behind the posts, and Alexander converted with ease.

Team.—W. B. Clegg; C. C. Wright, P. C. Alexander, J. Van A. Steytler, A. G. Johnson; J. E. Giesen (Capt.), V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, R. J. Drummond, D. M. Leeming, A. R. Clarke, T. A. Hale-Monro.

Hockey

Guy's v. Bournemouth

PLAYED at Motspur Park on Saturday, October 7th. Guy's started off well, and during the first half had rather the best of the game. The ball was kept in the opponents' 25 for some time, but there was no score. Bournemouth scored first, but it was not long before a melée in the circle ended in the Hospital's first goal through R. G. Archer.

Half-time was called with the scores level at 1—1.

After the interval the Bournemouth forwards combined better, and their excellent ball control and quickness off the mark resulted in their getting several goals in quick succession, but at 5—1 a good individual run down the left wing by J. B. Franklin produced another goal for Guy's, which he shot from the edge of the circle.

At this point the Hospital held their own for some considerable time, but before the end Bournemouth had added four more to their score, and the whistle blew for time as Guy's were pressing hard.

The result was 9—2 to Bournemouth, but, in spite of the large score against them, the team have no reason to feel discouraged. They worked well together in the first half, and it must be remembered that their opponents are no mean side.

Team.—H. V. Brown; D. P. King, A. G. Richmond; A. W. Turner, R. G. Archer, A. C. Greene; J. S. W. Dryland, E. B. Rowe, J. E. Elliott, L. N. Trethowan, J. B. Franklin.

Swimming

UNITED HOSPITALS' SWIMMING GALA

IN spite of many alterations this was a most attractive and interesting show. Owing to changes on the part of the University Swimming Clubs, the Bath Club was not available, and this year the Gala was held at the Marshall Street Baths.

Any fears of never finding them were soon dispelled on leaving Oxford Circus by the sight of hurrying parties of cheerful people playing a hasty game of "Follow-my-leader" through the dark alleys of that district, and any disappointment

aroused by the exterior was soon set at rest by the interior of the baths.

It is true that the seats were a trifle uncomfortable, but none could complain that they could not see, and a plentiful supply of towels was an ample protection against the showers.

In the water, R. J. C. Sutton again distinguished himself by winning the 100 yards, the 33⅓ yards and by his strenuous effort in helping St. Bartholemew's to win the relay race.

Following the semi-final of the team relay race there was an excellent display of fancy swimming by Mr. G. A. Wilkinson and Miss E. Frederick. Frogs, ducks and torpedoes were seen in turn, and, with the aid of phenomenal vital capacities, " wheels " were performed and seals and porpoises emulated.

A. F. Edwards, of Guy's, was second to R. J. C. Sutton in the 100 yards, following which there was a magnificent display of acrobatic diving, double dives, flights, and an interesting picture of modern methods of life-saving and resuscitation by members of the Highgate Diving Club.

F. H. Weston, of Guy's, was second to C. A. Brocklebank, of Bart.'s, in the Diving Cup. Guy's were also second in both the team and relay races.

A short exhibition of rhythmic perfection in free-style sprinting and back-swimming was then given by Miss Joyce Cooper.

Following this the nurses, who had been awaiting eagerly the Inter-Hospitals' Two-Length Race, made their appearance, and such was their haste for the fray that only one (may Guy's be duly proud!) waited for the starter's signal before taking the plunge.

Miss Adams, of Guy's, made a valiant start, leading for some time, but the race was eventually won by Miss Cornwell of the Middlesex.

Guy's were second in the Nurses' Inter-Hospitals' Team Race to the Middlesex, with Bart.'s, St. Thomas's and St. Mary's third, fourth and fifth.

In the final points Guy's were third to Bart.'s and St. Mary's. The winners of the Water Polo were Bart.'s, whose team duly received the Cups presented by Mr. Layton to each of the winning team

Following the distribution of prizes by Mrs. Hugh Lett came a keenly contested game of polo between Bart.'s and the Rest, amongst whom we were glad to see three Guy's players—De Gruchy, Smit and Styer. The Rest won easily.

The Gala thus produced a very enjoyable and amusing evening's entertainment.

Squash Racquets

A MEETING was held in the College on Thursday, October 19th, with reference to the formation of a Squash Racquets Club. This was duly carried. H. G. N. Cooper was elected Captain and C. A. Boucher the honorary secretary. It was proposed that a series of matches should be played throughout the winter, and that a " Ladder " should be arranged following the hospital tournament which is about to take place.

The first match was played against Pembroke College, Cambridge, on Sunday, October 22nd. We were defeated by 4 matches to 1, but every game was closely contested, the results showing that Pembroke won 12 games to 10. H. G. N. Cooper, C. G. Baker, M. A. Partridge, P. W. Clarkson and C. A. Boucher represented the Hospital.

There is a distinguished entry for the tournament, including, amongst others, the Warden of the College.

Hospital Information, etc.

William Gray Memorial Fund

The following is a further list of contributors :—

J. F. G. Richards	C. G. T. Tregarthen
E. H. Richards	J. C. T. Tregarthen
Anonymous	Sir Carrick Robertson
C. M. Plumptre	S. T. Theis
N. E. Pitt	N. L. Eckhoff

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
PRE-MEDICAL AND PRIMARY EXAMINATIONS.
October, 1933.

Biology.
B. A. R. Pitt.

Materia Medica and Pharmacy.
H. N. Levitt.

Appointment

B. R. Medlycott, M.B., B.S., Ophthalmic Surgeon, St. Mary's Hospital for Women and Children, Plaistow.

Change of Address

B. R. Medlycott, " Everest," Copse Avenue, West Wickham, Kent. *Springpark* 2128.

Birth

LOWE.—On 12th October, 1933, at 164, Adelaide Road, Hampstead, N.W.3, to Helene (née Hards), wife of A. S. Lowe, L.D.S., R.C.S. Eng.—a daughter.

Death

LONG.—On 12th October, 1933, in a London Nursing Home, Harold O. Long, following an operation.

EDS. { M. J. McA.
C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

IT is surely a wise and laudable enterprise for a hospital, in time of need or reconstruction, to demonstrate its usefulness and explain its aims, thereby enlisting the sympathy and support of the public. Guy's has never attempted anything so rash and undignified, and is content only to maintain one still small voice, which daily utters its melancholy plaint in company with claims for cast-off clothing and discarded false teeth and the appeals of distressed gentlefolk who are also "on the danger list." We can therefore watch with interest and detachment the efforts of other hospitals, comment with an open mind on their methods of enlisting support and, we hope, congratulate them when they have obtained it.

It was with this spirit that we read the recent article written on behalf of the proposed new Westminster Hospital in a leading Sunday paper. That it was not an official pronouncement we assume from its context; that it was written by an enthusiastic layman was obvious by its sensational nature, which, no doubt, impresses the public, but amuses the medical man.

"Electrical knives, which almost heal up the wound as they make it," must certainly sound like magic wands to those who have never heard of diathermy, and one can imagine their impressions of incurable growths shrivelling away before the explosions of the radium bomb. To them the thought of surgeons operating from eight in the morning and not finishing till after midnight is gallant and heroic, but it merely makes us think of the House Surgeon's varicose veins.

We see that the staff of the hospital are thinking ten years ahead, and are therefore introducing a new idea of dealing with Out-Patients which will abolish waiting. "On arrival, every patient will be seen by a young doctor," and "the rapidity with which the patient is seen by a consultant will then be within this man's discretion." We have no doubt that in ten years' time all the hospitals will be following this advanced idea—unless by that time they have adopted a better, for this is just what they do now and always have done. We have not noticed, however, that it has yet abolished the waiting.

WE are pleased to announce that over £300 have now been collected as a testimonial to William Gray. The number of subscribers from all parts of the world and the frequent compliments and good wishes sent with the contributions have shown how genuine and widespread is William's popularity. It has been decided not to hold any formal presentation, but the names of all subscribers are to be suitably inscribed in a book, which will be handed over to Gray with the full sum collected; £250 have already been transferred to his account, but the Fund is still open for a few weeks, if any still wish to subscribe. It will then be closed and the audited accounts published in these pages.

ALTHOUGH we feel that it is a pity that the X-ray facilities in this Hospital, instead of being one unit under one roof are strictly divided into Medical and Surgical Departments, great improvement has been made since both sections are now fully equipped and up to date. One important item that is still lacking is an efficient portable apparatus, for the present one is practically useless and seldom throws any light on patients too ill to be moved to the fixed plant. It is often these cases above all other that need the help of X-rays to accelerate diagnosis and facilitate treatment.

INTEREST still hovers round the picture by John Teal Cooper which the Superintendent has recently discovered in his house. It is apparently unique in that it is the only work of this artist that is known to exist, and, we are told, that when it is

cleaned, and its true merit as a work of art assessed, it may be valuable. It is the identification of the artist that is claiming attention at the moment, and the problem is really deeper than was at first thought. The Librarian of the Courtauld Institute of Art draws attention in last week's *Lancet* to the fact that there were two Coopers, one John Teal and the other Joseph, both of whom died in 1743 and both of whom are reputed to have painted fruit and flowers.

Now it seems that when Professor Constable gave us some weeks ago some details about Cooper, he was misled, and was actually recounting the life-story of Joseph and not John. It was Joseph who signed the mezzotint that is now in the British Museum, and it is doubted if he ever did paint fruit and flowers at all. What was really John's work seems to have been attributed to Joseph. For this it seems Horace Walpole has been indirectly responsible by a vague reference to a "Cooper" in his "Anecdotes"—besides, incidentally, leading to some confusion between the Michelangelos. Amid this welter of contradictory evidence, the notice in the *Daily Advertiser* of 1743 is our only definite piece of information about John Teal. From that we know that he was a man "of Polite Address of Conversation," that his choicest pieces are "in the Hands of the Curious," and that there is "one of his Master Pieces in the Great Room at Guy's Hospital, which remains as a monument of that Great Man's Ability in Painting."

THERE will be a meeting of the Debating Society in the "Spit" on Tuesday, November 14th, at 3.15 p.m. The motion before the house will be: "That human actions are controlled only by a system of conditioned reflexes."

The Sanatorium Treatment of Phthisis

By Richard R. Trail, M.C., M.A., M.D., F.R.C.P., Medical Superintendent, King Edward VII Sanatorium, Midhurst; Physician, Royal Chest Hospital, London, E.C.1

SANATORIUM treatment is still a very important link in the present-day chain of measures in the treatment of Pulmonary Tuberculosis. It must not be forgotten that it is but one link—the central link—and that it can only attain its best result if it be supported on either side by the other very important links of (1) diagnosis and choice of case and (2) after-care. In other words it is not the "be-all and end-all." If it be so considered the physician will be bitterly disappointed, and, what is more vital still, the patient will have wasted his time. This erroneous idea is the foundation of most of the criticism of sanatorium treatment; the premises are false, therefore the conclusion is false. A sanatorium is a place where patients are taught how to live and to work on hygienic lines, a training school where they can learn how to increase their resistance to present infection and return to wage-earning capacity with rules on how to avoid the obvious causes of their individual breakdown, and so do their part to resist a re-infection. It is not a building with the maximum number of windows and doors for the production of draughts, nor is it a lean-to in a back-yard, or a garden shelter, but a community of people living in healthy conditions and imbued with a single-minded purpose strengthened by the force of the community feeling. It will not be easy for the individual; such a life is bounded by restrictions; it is monotonous to many; it means a break with home and its social amenities. It follows that it is the opposite in principle to most of the schemes put up for home treatment; it implies the necessity of strong will and the inculcation of new ideas on careful routine to be applied in after-treatment. The patient must be protected from well-meaning relations and the ideas of coddling that sentiment will naturally associate with a chronic disease.

These points ought ever to be before the physician in his selection of cases, and he must himself decide how far he will hint at, or elaborate, them to the prospective patient. A moderately advanced case who is thus prepared has a far better prognosis than the earliest possible case who is not minded to submit himself to the hard school of an efficient sanatorium. Once the sense of routine suitable to his individual case has been attained, he *may*, by a further application of strength of will, carry out such treatment at home and so diminish his own and the State expense of his treatment, but he must have had individual investigation and individual training in a properly equipped and organised sanatorium, and be prepared to carry on under expert advice for at least two years after his return to home conditions, whatever the immediate result of sanatorium treatment may be.

It is probable that most cases of tuberculosis, apart from the now rare case of "galloping consumption," can be definitely benefited by such

treatment, but it is wrong to believe and to teach that every case of tuberculosis should be sent to a sanatorium. Granted that the cry of the "early case" has attained the weariness of the tale already told, some selection on extent of disease is still desirable. We all know there are very few early cases; the case that should be selected for treatment is one that is likely to attain such a result as to be restored to some wage-earning capacity and thereby justify the expenditure. The frankly advanced case is necessarily debarred; the fibrotic case with much superimposed infection in the late middle age and elderly patient is also generally unsuitable; it is not kindness to send a chronic bronchitic to the open-air life of the sanatorium—the effort of the institution is wasted and the patient is miserable, as even the present-day tendency to modify somewhat the worst rigours of the weather cannot well be adapted to his needs. On the other hand, there is no doubt that the vast majority of present-day sufferers can obtain distinct benefit from treatment during which, by a graduated scale of work and exercise, or, as it is better called, "graduated rest," they can be fitted for a return to work and enabled to carry on for a sufficient number of years to repay the cost. In other words, there are very few cases of early or moderately advanced disease who cannot attain clinical quiescence and be returned to an eight hours' working day under present improved conditions, provided they have been adequately prepared for the sacrifices of sanatorium life and during their residence taught how to rest in non-working hours.

We are still faced with the problem that many physicians tell us that the disease is already too far advanced before the patient has sought advice, but we hope that this will become rapidly less true in the future through the propaganda work of the tuberculosis dispensary and the more adequate teaching of students in chest diseases, although it is evident that a great deal more could be done. The present curriculum is exceedingly heavy; there is no doubt that the tendency to make it more practical and less specialised ought to be intensified, for in this lies the hope of the future for the practitioner, for the sufferer from tubercle, and for the State. Since its institution by Sir Robert Philip, the tuberculosis dispensary has done admirable work. It goes further than the hospital out-patient department; it not only provides diagnosis by an expert, but it visits the home through its health visitor and often through its medical officer, and so gives an opportunity for the examination of possible contacts as well as for drawing attention to insanitary conditions, thereby combating sources of possible spread of disease. The value of its propaganda can hardly be over-estimated in these days when the press is widely used for misleading statements on the curative value of quack remedies and patent cough mixtures. The dispensary, however, requires more adequate equipment than it usually has to-day. It should be brought into line with every method of modern investigation, including X-rays, and it ought to be in continual touch with at least one sanatorium where ideas of prognosis and, as a result, ideas of proper selection of cases can be gathered by its medical officers.

It will follow that the patient will no longer be told that he requires "three months in a sanatorium"; it will follow also that the advanced case which requires segregation rather than treatment will be relegated to a hospital or home for advanced cases and not to a sanatorium. In the past, diagnosis has far too often been followed up by the words "three months in a sanatorium," used as a mere shibboleth, in the same way as it has too often been followed up by the consultant with the words "three months in Switzerland." It is not enough to tell a patient that all will be well when he gets into the sanatorium. Even the sanatorium expert, with years of experience on prognosis, is never foolish enough to commit himself on the results of treatment until he has seen the response to at least one month's residence. The early case may go all wrong; the moderately advanced case may attain "arrest," or be so trained that he can return to many years of useful life.

Every sanatorium must modify its routine according to its type of patient. While the basis of treatment must be alike in all sanatoria, those for working-class patients cannot be compared with sanatoria for middle-class or sanatoria for rich patients. The demoralising effect of the convalescent home, deleterious as it is in all cases, must be rigidly excluded in an institution intended for manual workers. Interesting work or occupation must be found for patients in all sanatoria, graded according to the needs of the individual patient and strictly supervised by his medical officer, in order to protect the patient from that loss of the will to work which gives rise to the loafing and idling too often cast up as the end result by the critics of sanatorium treatment.

In this connection it is interesting to watch the developments under the Welsh National Board of the system of completing the treatment of housewives by allowing them to run small cottages in the grounds of the sanatorium; there is no doubt that the patients under such a scheme will leave the institution convinced that there is

nothing in the accommodation or the life that they lead that is not capable of being copied at home. It is the duty of the sanatorium to avoid the bad effects of unemployment. The patient must have his mind disabused of the idea that health and idleness are synonymous. Rest is certainly essential, but it should be "graduated rest." It follows that in all sanatoria the point of view that the patient is a worker under treatment must be ever before the medical officer. Unfortunately, this main idea of the tuberculosis experts of some 25 years ago has been so crystallised under the term "graduated labour" that it is now the belief of many patients, and many a medical man, that certain definite schemes, originally intended to avoid demoralising loafing, are part of the cure to be applied relentlessly to every type of patient, whatever his training mentally and physically, his social standing, or the civilian conditions of work to which he must return.

Such schemes cannot be applied without reason. An attempt must be made to reach the intellect of the patient, and while a certain amount of manual or exercise tasks are good for all, such tasks as are set must have some appeal to the patient's reason, and be laid along lines compatible with his education and social standing. It is as necessary, for example, for the intellectual worker to have his brain suitably occupied as it is for the manual worker to follow schemes that will prevent that loss of muscular vigour on which he will depend for his livelihood on leaving the sanatorium. What is suitable for one class is boring, detrimental, and even dangerous to another. In other words, the sanatorium is a school where the patient is taught to live healthily and also to work healthily; a place which makes a complete investigation of his individual case, gives him expert physical and X-ray examination, and uses every adjunct of modern methods in order to arrive at an assessment of his condition and prognosis, and from this basis starts him on a routine of graduated rest that will improve his resistance and better his prognosis, always with a view to returning him to his own work as soon as possible.

It may not be amiss to elaborate this point—that the patient is to be treated with a view to fit him to return to his *own* work. One still hears too much talk of the "open-air life for the tuberculous"; a far better, as less dangerous, dictum would be "sedentary work for the tuberculous." We believe in, and preach, rest and graduated rest; we must apply our beliefs to after-treatment as well as sanatorium treatment. Open-air work usually means hard work, and consequent fatigue; no one has a more arduous job, from the fatigue point of view, than, for example, the farm worker, insurance collector, or the commercial traveller. Sedentary workers now have good conditions in airy offices; some hundreds of bank clerks have been treated in Midhurst Sanatorium and are carrying on well at their own work to-day. Two factors are to be borne in mind; thousands of able-bodied non-tuberculous men are looking for work and ex-sanatorium patients do not stand a chance to compete; again, a new type of work brings two added conditions that fight against the benefit accrued—mental worry in the learning of a new trade or profession, and the lower social conditions consequent on smaller earning capacity.

There are, nowadays, many adjuncts to the mainstay of treatment, which is rest. There has been a criticism recently that sanatorium experts have given up their masterly inactivity and gone on to active interference with pneumothorax, but a little thought will show that pneumothorax is nothing but a further application of the principle of rest; it is an attempt to "splint" the lung in the same way as the surgeon would splint the tuberculosis knee. There is little doubt that it is a most efficient method of returning the patient to work as soon as possible. It has come to stay, and come to increase in its application, and it would seem that in the future it will be more and more applied to the unilateral case as soon as definite physical signs appear, since it has been proved that by it the patient can recover his working capacity much sooner than he can hope to do with safety by the slower method of "natural cure." Most successful cases of pneumothorax treatment can be at work in about six months from the time of induction, as by then they are likely to be on an interval of something like a fortnight between refills. The increase of this method of treatment is bound to call for a reconstruction of dispensary routine in the near future. The technique, although not difficult to learn, ought to be held in the hands of experts, and the hope for its future lies with the tuberculosis officer.

A most important part of the sanatorium medical officer's work is the attempt to outline a careful routine for the patient before he leaves the sanatorium. This means, naturally, individual work and the giving up of much time, but there is no doubt that it is work that repays itself tenfold. It is sad to see a patient who has left a sanatorium, and who does not know the meaning of an exercise temperature and its indications for rest, who has not been told how, in his own individual case, he may regulate the amount of

rest he requires following his daily work, who has not been aided to apply his training in the institution to his civilian conditions. The conscientious patient who has left a sanatorium in a state of quiescence, who religiously follows such applied routine on his return to work, and has combined with it the benefit of a periodical medical examination by the tuberculosis officer or consultant who sent him to the sanatorium and who, therefore, knows his condition before and after, can, in most cases, carry on a comparatively long and useful working career, and will be going on the best lines to attain a complete arrest of his disease.

It is my own belief that the good results of pneumothorax treatment are as much due to the fact that the patient with pneumothorax is continually reminded of his disease and the necessity for stringent routine, as it is to the fact that his lung has been rested by special treatment. The lesson to be learned is obvious; more and more hand-in-hand work between the tuberculosis officer and the sanatorium medical superintendent must come if full benefit of present-day methods is to be seen. The dispensary must develop in the town, and the sanatorium in the country; one or other must be for the patient a centre to which he can frequently return over a period of not less than two years after his residential treatment if he is to gain all that he can and ought to gain from what we have to offer him in his fight against tuberculosis.

Visits to Scandinavia

By Nils L. Eckhoff, M.S., F.R.C.S.

I AM glad to have the opportunity of presenting here a few impressions of a recent trip to Scandinavia. I hope that what I have to say will be of interest, chiefly to the younger men, and if I appear to dwell unduly on matters of minor importance it is because I feel that it is in the small things even more than in the bigger issues that we can learn from our colleagues in other countries.

It is probably easier for a surgeon to observe the differences of practice, differences of operative and pre- and post-operative treatment, in a relatively short space of time, than it would be for a physician to study the physiological and pathological tenets upon which medical diagnosis and treatment are based. Nevertheless, I should like at the outset to say how important it is for every practitioner to do his utmost to travel to clinics at home and abroad, even for short periods, so as to escape the narrow viewpoint of his own training school. The Scandinavian doctors can teach us a great deal in this direction, for they make it their duty to travel, first to their home clinics, later to Germany, Austria, Switzerland, France, Great Britain and the United States, and they can truly be said to be thoroughly conversant with what is going on the world over.

It is first necessary to have a general idea of the conditions of medical education and practice in these countries. The medical curriculum is arranged in three parts as follows :—

Part I.—(*a*) Physics, Chemistry, Latin and Philosophy, one year; (*b*) Anatomy and Physiology, two years.

In Norway, at the moment, the accommodation for students in the hospitals is limited, and all are obliged to wait, often as long as two years, after the completion of Part I before admission to the wards.

Part II.—Divided into two terms per year.

Term 1. General Medicine.
Term 2. General Surgery.
Term 3. Skin. Eyes.
Term 4. General Medicine.
Term 5. General Surgery.
Term 6. Revision for examination.

During this period of three years, pharmacology, bacteriology and pathology are studied.

Part III.—Obstetrics, Gynæcology, State Medicine, Hygiene, Children's Diseases, Ear, Nose and Throat, and Pyschiatry, one year.

This makes a grand total of seven years, but, with the enforced wait between Part I and Part II, often spent as dresser in a provincial hospital, the student must allow nine or ten years for the full course. (I may here point out that a similar difficulty exists in accommodating students in Dentistry, but this very fact helps to prevent too great overcrowding in either profession.)

Once qualified, the doctor may seek a junior house appointment at a hospital, but as these appointments are not exceedingly numerous, many newly qualified men pass directly into practice. Let us consider what the prospects are in practice. In a town, the fees are usually about 1.50 kroner for a consultation and 3.50 kroner for a visit. As the krone is at the moment worth almost exactly 1*s.* and usually about 1*s.* 1*d.*, these figures are

"ARCHIE"
or Bottle by Bottle.

especially interesting following the recent correspondence in the *Gazette*. In the country districts, an appointment as district surgeon may be held in addition to private practice, and this carries an annual salary of 3,000—5,000 kr. (*i.e.*, £150-£250). But when it may be necessary to travel many miles into the mountains, or many miles by motor- or rowing-boat into the fjords, or even on skis across enormous lakes in intense cold (all of which I have previously experienced), this salary is well earned. The surgeon may on such visits carry a few drugs, but otherwise all dispensing is done by the chemists.

The chemist in Scandinavia is a very important and often wealthy member of the community. His shop is the cleanest and tidiest institution one could wish to see. No toilet articles are sold, and one cannot buy even a bottle of cough mixture without a prescription from a doctor. A repeat of the same mixture requires a further prescription. Thus the chemists and doctors protect one another from abuse. The chemist prepares all his own drugs (tinctures, etc.) from the crude herbs or chemicals. When proprietary drugs are ordered by special request, the label is obscured by the chemist's own label. Night duty is taken by different chemists in rotation, and the address of the nearest on duty is clearly shown, not only in the chemist's shop but in booklets available to all.

Should a newly qualified man desire to take up consulting work (surgery, medicine or one of the specialities), he must spend at least ten years doing hospital appointments. In view of the large number of beds controlled by each *overlaege* or chief, vacancies for senior positions are few and far between, and a man is often 45 before he obtains a permanent appointment. During the many years spent in hospital service, the salary is between 5,000 and 6,000 kr. per annum, and private practice is not allowed. An aspirant for surgical honours must spend at least six months in a medical clinic, and *vice versa*. Eventually he must present his credentials to the medical association and be accepted as a fit person to practise as a consultant. (There are, as in England, many who practise specialities who have not travelled this thorny path, but one gathers that their success in practice is not great.)

An *Overlaege*, or professor (if he has this title), will have a salary of about 6,000 kr. and his average operation fee about 250-300 kr. The incomes of the bigger taxpayers are sometimes published in the papers, and a surgeon whose income is about 60,000 kr. (£3,000) is regarded as an extremely wealthy man. It is only fair to state that the cost of living does not seem to be as high as in England. As the towns are comparatively small, the consultant is able to live within easy walking distance of both the public and private hospital. Private patients are seen in his own home, and referred to the private hospital for treatment if necessary.

The private hospitals (there are practically no small nursing homes) are self-supporting, but the ordinary hospitals are supported partly by the State or town, and partly by payment from patients. The poorer classes insure against hospital expenses by weekly payments into a central fund. The payments made by patients (or their insurances) cover only a small proportion of the hospital expenses, the inclusive fee being 2.50 kr. a day in an ordinary ward, rising to 12.50 kr. a day in a single room. (The average cost per patient per day in 1928 was 9.20 kr.) The hospitals, being in no extreme lack of funds, are therefore amazingly well equipped, and, although the bed space is often small, the corridor and balcony accommodation is large, and the operating suites, laboratories and accessory departments leave little to be desired. The medical quarters are also very good. Double doors and double windows are everywhere to be found, and lack of ventilation seems to be the one besetting sin. This is a common fault throughout Scandinavia, a habit doubtless arising in the hard winters and persisting even into the good summers, such as the one we have just experienced.

CHRISTIANSAND, S.

This was the first town I visited in Norway, it being the southernmost town in that country and the first stopping place for some of the steamers from England. It is quite a small town (16,000 inhabitants), and is served by two hospitals. One —the official hospital of the town, *Kommunale Sykehus*—is housed in several attractive wooden buildings, typically Norwegian, and rather aged. These are shortly to be replaced by a fine concrete four-storied building, with elegant sun balconies, commanding a beautiful view of the fjord. This new hospital will have only three and six-bedded rooms, and, although it is only in skeleton form at present, the general outlay seems excellent. The other hospital is St. Joseph's, a Catholic institution, staffed by nuns, which admits patients from the whole country, and also accepts private patients.

Overlaege Andersen is the surgeon to both hospitals, and operates daily at both. As is usual in a country practice of this sort, the surgeon has to be prepared to deal with each and every type of surgical case, and his experience is consequently wide and varied. In fact, he is said to be one of

the most experienced surgeons in Norway, and for this reason alone is worth watching. He has three or four younger men working under him, but on the whole the conditions of work are rather primitive, as Dr. Andersen himself is the first to admit. His technique is doubtless developed in consequence of this fact. One notices especially that he uses only one assistant at his operations, preferring to find his own instruments as required and to prepare his own ligatures and sutures. For the latter he uses patent eye needles, which certainly take little time to thread. He uses dry sterilised catgut, out of small packets, handed to him by the theatre sister, who also has to attend to all the other wants of the theatre, and therefore does not " scrub up."

He uses no mask, except when he has a cold, albeit a flowing moustache, and he does not believe in the elaborate covering up of the skin, much less the attachment of tetra towels to the peritoneum, such as is seen in some English clinics. The fact that he wears a cap at all, when the attendant nurses have only a small decoration over the occipital region, is an inconsistency.

In spite of these idiosyncrasies, the actual surgery is of a high order, and is attended, I am told, by remarkably good results. Anæsthesia is with ether, delivered by nurses through a closed inhaler of a French pattern. The induction is rapid and smooth, and the maintenance all that can be desired, whilst after-sickness is said to be much less than by the now discarded open method. Much less ether is used, and the atmosphere is not laden with the anæsthetic, to the advantage of all present. Spinal anæsthesia is used when especially indicated, and local anæsthesia frequently, always for hernias and smaller operations.

I was particularly struck with the habit, universal in Norway, of dictation of notes by the surgeon to the Kandidat (house surgeon) for recording purposes. This has the advantage of putting on permanent record the viewpoint adopted by the surgeon at the time of the operation, and the reason for the particular treatment. This is all too frequently absent from our own hospital records, which depend on the imagination of the youngest ward clerk.

I attended these hospitals on two days, saw a few operations, and followed the surgeon on his rounds. I saw two operations for uterine fibroids, one for termination of pregnancy (hysterotomy and dilatation) and sterilisation, one for phimosis, one for acute retention and one for breast abscess. There are no especial observations to be made concerning the operative technique, except to note that Dr. Anderson is a neat, rapid and skilful operator.

Two observations arise out of the ward visits: (1) The frequent use of Mickulicz gauze bags for drainage after abdominal operations attended by sepsis and in all colon resections; (2) the use of the Johansson modification of the Smith-Petersen operation for fractures of the neck of the femur. In this operation, after taking X-ray pictures in two positions under spinal anæsthesia, these are carefully studied. A wire is later drilled into the femur (through a very small incision) passing through the great trochanter, through the neck, up into the head of the bone. The position of the wire is further controlled by X-ray pictures in two planes, taken with a portable machine, and if the position is satisfactory a Smith-Petersen nail, previously canalised, is threaded over the wire and driven home. This is an excellent operation, which I hope to describe more fully later.

OSLO.

Rikshospitalet (State Hospital)

This hospital occupies a large and fine site towards the centre of the old part of the town. The different departments are housed in separate blocks. In the surgical department there are two Professors with two complete units. Each unit occupies one floor, in which one finds the poly-clinic (casualty department or receiving-room), the wards and the theatres. The wards are of various sizes, there being several rooms with three or six beds, in addition to the large wards with 30-40 beds. Each unit has about 140 beds. The surgical staff of each unit is composed of the *Overlaege* or Professor, a reserve *laege*, two assistant *laeger* and two *kandidats*. The reserve *laege* or one of the assistant *laeger* usually assist the Professor, in addition to a *kandidat*. A student may also assist at operations, but instruments are entirely in charge of the theatre sister.

The senior Professor, Professor Ingebrigtsen, interests himself chiefly in brain surgery, in addition to the general routine work of the department. I did not spend much time in his clinic, but amongst the things I saw I was interested in the (unsuccessful) attempt at reduction of a dislocated lunate bone by axial traction, only to witness its later reposition by operation under local anæsthesia, through a volar incision.

Professor John Holst, on the first floor makes a special study of thyroid diseases, tuberculosis in all forms, and chest surgery. I spent a great deal of time in his department. Work starts at 8 a.m. or shortly after, the " firm " meeting in the X-ray department to view the films taken the previous day. Later the wards are visited, and finally come the operations. The professor

gives a lecture to the students about 8.30 a.m. on alternate mornings, and on these days the round is started by the first assistant. Every patient is visited daily, and dressings are performed by the surgeon himself or by the first assistant, at least in the more severe cases.

Thyroid operations are usually performed under local anæsthesia and the technique is excellent. The operation of choice for thyrotoxicosis is the removal of most of the gland, except for a strip along the posterior border of each lateral lobe. The condition of the patient at the end of the operation is remarkably good. The fact that the department lies on one floor allows of the transportation of the bed, on an easily moving bogey, to the operation theatre. The patient is thus immediately placed on his or her own warm bed in a comfortable position, and taken to a small ward for the first few days.

I witnessed greater and smaller thoracoplasties, for tuberculosis and empyema respectively. Professor Holst performs a much wider thoracoplasty for tuberculosis than is described by Sauerbruch. The whole of the first and second ribs are removed, and great attention is paid to the freeing of the apex of the lung, so that the subsequent collapse may be complete in the vertical as well as in the lateral plane. Great portions of succeeding ribs are removed, down to the 6th or 7th for partial, and to the 10th for total, thoracoplasties. The operation is, as usual, performed under local anæsthesia, with the occasional addition of a few drops of chloroform, administered by the anæsthetic sister, and is followed by an immediate blood transfusion from a Pirquet positive donor.

I attended the ward rounds daily, and saw further patients convalescing from thoracoplasties and from operations for the removal of mediastinal tumours. I was also able to follow the pre- and post-operative treatment of thyroid patients. Basal metabolism estimations are regularly carried out, and greatly valued. Krogh's apparatus is used, and the estimation is done by a sister in about 20 minutes.

Professor Holst is also very interested in palate work, and is desirous of organising a palate department that will serve all Norway. (In Denmark, cleft palates are notifiable at birth, so that proper surgical control can be maintained.) He models his work on that of Ernst and Veau, and calls in a dental surgeon to assist at all these operations. His results (anatomical) seem very satisfactory, but I could not persuade the small children to talk and did not see any later cases, so that I was unable to check the functional results.

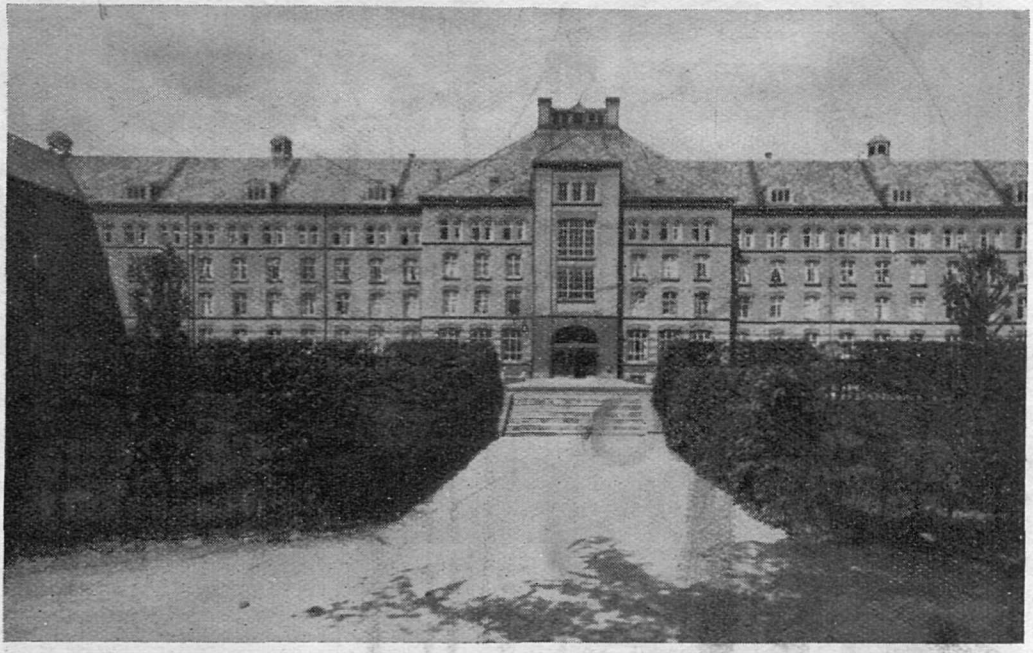
Ullevaal Hospital, Oslo. Showing the wings of the Medical building on the left, and the Surgical building on the right. Similar buildings exist for all departments.

The students all wear clean white coats and rubber-soled shoes during their attendance at the clinics. They may sit in the gallery of the operating theatre, and only the student of the case ever approaches the table. The nurses also wear rubber-soled shoes.

The surgical department of the Rikshospital is considered to be very old (*i.e.*, 50 years), for most of the other departments are more modern. The gynæcological and obstetrical department, for example, is only 20 years old. This is beautifully situated, with a fine view over the fjord. It has six single-bedded labour rooms, in each of which the usual operative procedures can be carried out if necessary, in addition to two other magnificent theatres. It also has a completely shut-off wing, with its own staff, for all puerperal pyrexias, however mild.

Here, again, each department is housed in a separate building, and, in addition to the main surgical and medical buildings, there are further three-storied buildings for gynæcology and obstetrics; ear, nose and throat; eyes and nervous diseases, skin and venereal diseases. Orthopædics and genito-urinary surgery are not treated as separate specialities, but fall under the care of the general surgeons.

It is only fair to point out that the figure 2,650 above quoted includes epidemic diseases, housed in the further part of the ground in separate pavilions. The hospital also provides accommodation for a certain number of chronic sick, so that the total of patients passing through the wards in one year is only 18,000. This, in spite of the fact



The Nurses' Home, Ullevaal Hospital. (The two wings of the building cannot be seen).

Oslo Kommunale Sykehus (municipal hospital) at Ullevaal is one of the largest hospitals in Europe, possibly in the world. There are 2,650 beds, and the total community living in what is practically a small town is about 6,000 people. Most of the buildings are relatively new, and are tastefully disposed over a large tract of ground. A photograph of the front facade of the Nurses' Home (even this is not all covered by the illustration) will give an idea of the size and style of the buildings. I also enclose a picture of the gardens.

that simple surgical cases (appendices, etc.) are sent out on the sixth or seventh day, and gastric and gall-bladder cases on the 14th or 15th day. Tuberculosis (medical and surgical) is also treated here, and as the incidence of tuberculosis in Norway is 1.8 per 1,000 of population (against 0.98 per 1,000 in England), and since the average stay in hospital in the case of the tuberculous must needs be long, this also helps to limit the annual turnover of patients. I was struck by the amount

of tuberculosis seen in all the Norwegian hospitals. It occurred to me that there were three factors that might explain this: (1) lack of ventilation; (2) prevalence of spitting; (3) widespread use of milk as a beverage, even among adults. These habits are exaggerated in the remote country districts, and here the incidence of tuberculosis is greatest.

The surgical department at Ullevaal occupies two floors in the surgical building, the X-ray department occupying the third floor. Each floor is served by a complete unit, consisting of one *overlaege*, one reserve *laege*, two assistant *laeger* and two *kandidats*. The heads of the units are Overlaege Videroe and Overlaege Schilling, who have no professorial rank, although they share the surgical teaching with the professors at the Rikshospital. In fact, owing to the marked specialisation at the latter hospital previously mentioned, and the relative lack of space there, Ullevaal may be said to be even more valuable for the undergraduate student. Here each floor has about 175 beds, and every type of surgical case is admitted, including genito-urinary and orthopædic cases. The wards vary in size from three-bedded rooms up to wards containing 22 beds. Two criticisms that one would offer at once are: (1) that the beds are much closer together than we consider wise at Guy's, and (2) that the number of beds in each unit (175) is far too great for really satisfactory working.

Nevertheless the standard of work is high, and this is facilitated by the close presence of laboratories for ordinary investigations (carried out by nurses) and ample theatre space and equipment that meets every need. The theatres are centrally placed and have commodious ante-rooms. There are two main theatres (communicating), a theatre for cystoscopy, etc., a plaster room with portable X-ray, and a spare theatre for septic work. The instrument sister does not "scrub up," and, although one feels that this is a mistake, one has to admire the excellent understanding between her and the operator and his assistant, and the remarkable skill with which she threads the (patent-eye) needles.

Amongst many surgical procedures that I noticed here, I was interested again in the wide use of spinal and local anæsthesia (novocain on one floor and percain on the other), practically to the exclusion of general anæsthesia. Thyroidectomies are always performed under local anæsthesia. Cholecystectomies (starting at the fundus) and gastrectomies seldom require narcosis, and operations on the lower abdomen and lower limb never. In addition to the above, I was interested in simplified operations for (1) extra-articular arthrodesis of the hip, (2) fractured neck of the femur (Johansson's operation), (3) oblique fractures of the tibial shaft.

There are many further smaller hospitals in Oslo, notably Akers Sykehus, a fine new well-appointed hospital draining the county, a cancer hospital, a Red Cross (private) hospital, an orthopædic hospital, a women's hospital and others that I have ear-marked for future visits. My impression of Norwegian surgery as a whole was very favourable, and this, combined with the exceeding beauty of the country and the great hospitality of the people, rendered the passage of time all too rapid.

A Dance

ON the evening of Thursday, November 9th, was held a further dance in aid of the Cosmo Bonsor Memorial Fund. As previously, it was held in the Revelstoke Library in the Nurses' Home, and all the arrangements were as excellent as ever, though, as these dances are now established favourites, the limitations of space are beginning to make themselves felt. We understand that the number of tickets issued was limited, and that all were sold before the evening of the dance. Whilst it is an excellent thing to avoid too great a crush in this manner, it seems a pity, both from the point of view of would-be dancers and the financial object of the dance, that larger numbers cannot be catered for. Possibly there is some good reason of which we are unaware why one of the larger rooms of the Nurses' Home should not be utilised either as an alternative or even an addition.

A previous writer has touched on the treacherous region in the floor; mishaps here were rife again, and our previous admiration of the nurses was enhanced at the amazing self-control they exhibited as their shoes were torn off in negotiating the hazard. It would be nice if that wonderful engine that we have heard at work all the summer in the Medical School and which has, so we are informed, resulted in the production of the wonderful series of glossy floors in the Physiology Department, could be called in to remove the stigma from an otherwise pleasant floor.

Anyway, we enjoyed it all very much.

R. L. S.

Correspondence

Biennial Dinner Clinics

To the Editor of the GAZETTE

SIR,—I would like to join others in expressing our thanks and appreciation to the several members of the Staff who so kindly, and possibly at some considerable personal inconvenience, held clinics for old Guy's men in connection with the Biennial Dinner.

Yours, etc.,
O. MARRIOTT.

30, Walbrook,
E.C.4.

Acute Appendicitis

To the Editor of the GAZETTE

SIR,—Some months ago you were kind enough to publish my clinical lecture on acute appendicitis. In preparing this for republication in another journal I have added some fresh figures, and I think these are of sufficient interest to appear in the *Gazette* as an addendum to my lecture. The paragraph I have inserted is as follows :—

"The division of cases into groups has many fallacies, for the reasons which have prompted the placing of a patient in one or other group are never apparent in the records, but concern greatly the value of the statistics. Were the surgical staff of any hospital to treat all cases of appendicular abscess over a period of two years on delayed lines, and all similar cases during the next two years by immediate operation, a reliable estimate of the relative value of the two methods might be obtained. Such an experiment is hardly possible, but similar information can be derived from a comparison of the average death rate in hospitals where the first method is favoured, with that of others of like standing where the second is practised. I have taken the total appendix mortality at the London and St. Thomas's Hospitals, two institutions in which, judging from published papers, expectant treatment is favoured, and compared it with that at Guy's and St. Bartholomew's Hospitals, where immediate operation is the rule. The London figures are taken from Love's paper, the St. Thomas's figures from that by Sworn and Fitzgibbon in the *British Journal of Surgery*; the Guy's and St. Bartholomew's figures are from the records of these two hospitals and include the years 1920 to 1927. The numbers are in each case sufficiently large to neutralise the influence of runs of "luck," good or bad. In the "expectant" group are 3,773 cases with 196 deaths, a mortality of 5.2 per cent.; in the "active" group, 4,420 cases with 195 deaths, a mortality of 4.4 per cent."

Yours, etc.,
W. H. OGILVIE.

105, Harley Street,
W.1.

Observation

A Paper read before the Guy's Hospital Dental Society on October 30th, 1933, by L. J. Bailey

MR. PRESIDENT and GENTLEMEN,—Alcott says: "Observation more than books, experience rather than persons, are the prime educators."

We are frequently reminded in "Passim" of the Hospital *Gazette* of the importance of observing accurately; on the morning clinics we are constantly being told to use our eyes. How often in the course of our careers as students have we heard the remark: "Oh! I didn't see that," or "I hadn't noticed it," after one of the Staff had indicated an obvious point.

The story is told of a patient who arrived on extractions one morning, in the days before anæsthesia, with a widely open mouth in which could be seen a carious upper first molar. The energetic student promptly extracted the tooth, and sent the patient away with his mouth still widely open, having failed to observe the dislocated mandible. That may sound a little far-fetched, but it is possible that equally obvious points are missed by students every day.

Quite recently, a student who was working on a patient turned to another student and said: "There we are, that's finished; what do you think of it?" indicating a beautiful gold inlay in a lower premolar. The other student picked up his mouth mirror and looked at the filling. It certainly was an excellent piece of workmanship, but in the same glance he examined the patient's lower incisors, and it was apparent that they had not seen a scaler for years. They were thick with tartar. When this was pointed out to him, his excuse was that he had not noticed it. All that he

saw was a tooth which needed filling. He was quite oblivious to the fact that other teeth in the head needed equally urgent treatment.

Many of us have learnt to recognise that bluish colour of the enamel appearing on the occlusal surface of the teeth at the mesial and distal margins. We now know from long practice that underneath is interstitial caries. But how long did it take us to recognise its significance. I confess it was some time before I realised its importance. I saw it several times and passed it by without further thought, and it was only when it was pointed out to me by one of the demonstrators that I began to *observe* it.

Now, why is observation so important?

FIRST, AS STUDENTS

Because accurate observation is the basis of learning most of the subjects in our curriculum. We are taught to observe from the beginning of our careers as students. In the laboratories we learn to observe the chemical reaction of various substances. In the dissecting room we observe the structure of the body, and by means of the microscope we see their histological characteristics. The handling and viewing of the muscles, arteries, nerves and veins of the body assist us in remembering their relations. After we have taken our pre-clinical examinations, we enter the conservation room, and there at the clinics and in the course of our work we meet the pathological conditions. If a student has failed to observe the normal conditions of the mouth, how can he learn to observe the pathological? The pathological is but a deviation from the normal. This deviation may be obvious, as in an acute Vincent's, or may only be slight, as in some cases of pyorrhœa. The student who has a clear idea of the normal has something as a standard with which to compare the pathological.

SECOND, AS DENTAL SURGEONS

(*a*) In order to arrive at an accurate diagnosis.

(*b*) So that we can do our duty to our patients. Faulty observation leads to incorrect diagnosis.

(*c*) The value of research depends on accurate observation.

WHAT IS OBSERVATION?

The Oxford Dictionary gives as a definition :—

1. The act or faculty of observing or taking notice. The act of seeing or of fixing the mind upon anything.

2. To take notice of by appropriate conduct, to conform one's actions or practice to, to keep, to heed, to comply with.

3. To be on the watch respecting, to pay attention to, to notice with care, to discover.

A consideration of these three groups of definitions shows that observation has quite a broad meaning. It is not concerned solely with the act of seeing. You observe the tone of a particular instrument in an orchestra by hearing it, the odour of a drug by smelling it, the texture of a material by touching it, and so on. Observing and looking are not quite the same. Looking demands only the directing of the eye towards an object. Observing involves not only a directing of the eyes but a focussing of the attention as well. We are looking at objects and people all day long, so that it becomes almost a relaxation, but we are not always observing. If you were asked to describe the face of your watch, probably only one out of ten would be able to do so, although you look at your watch every day. But you may argue that points like this are unimportant. The trouble is that we fail to observe those points that *are* important. Our eyes may be directed at some particular object, but our minds may be thinking of something quite different, so that we are not conscious of what our eyes see.

When we observe an object, we not only fix our eyes upon it, but we also focus our attention upon it. Then we become conscious of what we see.

For example, imagine you are crossing London Bridge during the rush hour. You walk, presumably with your eyes open, and you look at the various people passing by. What you see of those people depends entirely upon whatever attracts your attention, such as any peculiarities of their gait, or unusual attire. But imagine that you are crossing London Bridge with the intention of observing, for some reason or other, all the young ladies with bobbed hair and no hats ; your attention is immediately focussed. You look for only one type of person, *i.e.*, young ladies, and you look for only one part of them, *i.e.*, their hair, and, having looked at the hair, you say to yourself, " Is it, or is it not, bobbed? "

Or take a man looking in a watch-maker's shop with the intention of buying a clock to put on his dining-room mantelpiece. Here, again, he fixes his attention on the clock. It is not served by looking at that part of the window which is devoted to wrist-watches. He looks for the clocks and then for one particular type of clock, and, having found it, he looks for one suitable for his purpose.

In both of these illustrations the mind fixes the attention upon some particular object with a view to knowing more about it. Dealing in our specialised branch of surgery tends to make us think of nothing else but teeth. We often fail to appreciate the fact that the mouth is not the only

region in the body, and that a patient's teeth must be considered in relation to the rest of the body. What is best in the interests of the patient does not always depend on the local conditions. When we examine a patient's mouth we must also inquire about his general health and notice for ourselves any peculiarities outside the mouth which would suggest a pathological condition. This observing of patients should, after a while, become a habit, but, like all habits, it needs practice and patience to acquire. To-night I wish to stress only some of the more important points in connection with observation, and I have grouped them under the following headings :—

1. Observation of the individual.
2. General appearances.
3. Observation of the mouth.
4. X-rays.
5. What the patient observes.

I.—OBSERVATION OF THE INDIVIDUAL

It is important for us to realise that when we treat patients we are treating *individuals*, and not merely people who want their teeth filled. Dental surgery does not consist only of attending to people's teeth; it is the individuality of the patients which helps to make this subject so interesting. A person who has been awake all night with a raging toothache is not in the same frame of mind as when he comes for an ordinary consultation. Experience tells you that a dock labourer needs different handling from an old lady of 70, and the explanations you give to a navvy will not necessarily satisfy a student.

Most patients who visit the dental surgeon are in a state of anxiety and nervousness largely founded on the emotion of fear. This may be due to tradition handed down to children by parents, or to actual previous personal experience. The dental surgeon has not only to put a patient at his ease physically, but also mentally. He has to allay his patient's fears by his actions and by suitable sympathetic remarks.

The majority of us have found that the most difficult part of our work is to obtain a patient's fullest confidence and co-operation. To do this demands the understanding of human nature, and this understanding can only be obtained by carefully observing individuals.

II.—GENERAL APPEARANCES

When you see a new patient notice first his shoes and clothing. It is said that clothes make the man; they at least make all of him that is observable to you except his face and hands. Notice the patient's general cleanliness. A well-groomed appearance suggests a well-cared-for mouth.

Study a person's gait and notice the movement of his hands. Nervous patients will often play with their hats or handbags, or screw up their handkerchiefs. Notice what books your patients read. These often express a patient's personality and form a good reflection of the mind. Then listen to the conversation and afterwards notice any inflection in the voice. The voice is a very subtle medium of self-expression. You have all met the boisterous, happy-go-lucky sort of man who shouts "Good morning" to you, and the timid, nervous little man who is almost too frightened to speak. These are, of course, the two extremes, and most individuals fall somewhere between the two. Learn to distinguish between the essential points of the patient's symptoms. Sort out the useful facts from the useless. Patients often mix up their symptoms with what some other dentist has told them about their dentures.

Then observe any striking feature in a patient's appearance, which singles him out from a crowd, *e.g.*, consider a unilateral facial paralysis in a man. When you see one, do not merely look at it and then dismiss the matter from your mind; ask yourself: "How will the mouth of this person differ from the normal?" Make a mental picture of the state of affairs you would expect to find in that patient's mouth, and check your mental picture by looking inside and seeing if you are correct.

Always notice the man over 40 who puffs and blows after climbing the few stairs to your surgery; notice any cyanosis of the lips and mucous membranes, and say to yourself, "This man probably has a weak heart, and therefore I must be careful what anæsthetic I give him."

It is an excellent plan to have your surgery above the ground floor; it picks out these people. Bear in mind the fact that one day a patient may come to you with a fractured mandible. Notice any external signs of fracture, because if you do not and you ask him what is wrong he will not think a great deal of you.

Observation of children.—While I am on this subject of observation of the individual I should like to lay special emphasis on the observation of children. In trying to understand children one fundamental fact must be realised, and this is, *that a child has not had the same amount of experience as an adult.* In the process of living an adult meets with a vast number of experiences which influence his thoughts and actions and modify his way of living. For example, a child sees a red-hot coal fall out of the fire. To him that may be a new experience. He may never have seen such a thing before. So, out of sheer curiosity, he stoops to pick it up, and finds that

it is hot and that he has burnt his fingers. If, a week later, another piece of coal falls out of the fire, his curiosity will again be aroused, but he will not pick up the coal in a hurry, because previous experience tells him that it will be hot. He compares the previous experience with his present condition, and his actions are modified accordingly. So, every new experience in life adds to a person's knowledge.

Young children are unable to appreciate the remote consequences of present effects. A child's mental outlook is not sufficiently broad to realise that present treatment is going to be of value in the future. A child is interested only in immediate cause and effect. To a child most things are new, and it is interested in anything and everything out of sheer curiosity. Fortunately, children are not self-conscious. They are much more spontaneous in their speech and actions than adults and, unlike adults, they observe no standard of good or bad taste. They say what they think and do what is uppermost in their minds, and every action is tinged with originality.

III.—OBSERVATION OF THE MOUTH

When you examine the mouth, start first by examining the lips; notice their colour; see if they are fissured; look for any sores or cracks at the corners. Remember that the lips are sometimes the situation of a primary chancre. If you fail to see this, you may do irreparable damage to yourself and your patients. Always look upon any doubtful ulcer of the lips as a possible source of spirochætal infection until you have proved it to be otherwise. Papillomata are frequently found on the lips and in elderly patients; remember that these become malignant.

Then let the patient open his mouth and proceed to examine the interior. Look at the labial surface of the upper incisors and make a mental note of any that are missing. Notice the size and colour and degree of calcification; those that have been crowned or devitalised. If you see any hyperplasia, then you would expect to find gross caries in the back teeth, but I will deal with the teeth later. Next examine the tongue and compare its size and shape with other tongues that you have seen. See if it is furred or clear; a furred tongue suggests an abdominal trouble which needs correcting. The tongue in elderly men is a common situation for leucoplakia and carcinomata. Now turn your attention to the interior of the cheek and again notice any unusual clinical signs.

All this examining can be done without even putting your fingers inside the mouth. The eyes see a good deal, but the mind does not necessarily take it all in. The next stage is to examine the teeth and gums with the aid of a mouth mirror. Most of you have some method of doing this. I usually start at the lower left third molar region and pass round to the lower right, then to the upper right and, passing round to the front, back to the upper left molar region. I like to repeat this. The first time I look at the gums and palate, noticing any irregularities such as seruminal tartar, hypertrophy, ulcers, etc., and, the second time, I confine my attention to the teeth themselves, noting those missing, those filled, any obvious cavities, any peculiarities of shape or position, the amount of staining, the degree of calcification, the amount of food debris, or the position of any stagnation areas. Then I ask my patients to bite, and I compare the relation between the upper and the lower jaws. In this way I get a general idea of the type of mouth at which I am looking. I have made no mention of the use of a probe. This instrument is essential for examining the depth of the pocket and the detection of caries. This should be the last step in examining the mouth, because the thought of decayed teeth is uppermost in our minds, and it is well to forget for a little while what is uppermost. We can all examine a mouth for caries, fairly thoroughly, because it is something at which we are constantly trained and practised, but to examine the mouth as a whole is quite another matter.

This general examination should be adopted as routine practice on all new patients. It takes time, but your efforts will be rewarded.

Examination of the mouths of edentulous patients—We are assisted in this because we can obtain accurate models, but there are some preliminary points worth considering. After examining the mouth in the usual way, it is well to run your finger along the alveolar ridge, noting any bony prominences, muscle attachments and the general texture of the gums. Examine the arch of the palate and classify it according to the three main types. Compare the size of the torus palatinus with others that you have seen, and note the size of the frænum.

IV.—X-RAYS

It would be ideal if we could give all new patients a full mouth X-ray, but I am afraid that this is not always possible. Used correctly, the X-rays are a means of checking your diagnosis made on clinical grounds. To-night I wish to lay stress only on the more important points to observe in an X-ray picture.

When you examine a full mouth X-ray, consider the films as a whole. Notice first whether they have been taken correctly. An incorrect X-ray picture often gives quite a wrong impression. A

good X-ray picture should show each tooth of the right approximate length, and, provided the teeth are in correct alignment, there should be no overlapping of the enamel at the mesial and distal margins. This is of great importance in determining the position of an impacted lower third molar. In the molar and premolar regions, with the exception of the lower first premolar, the enamels covering the lingual and buccal cusps should approximately coincide. In the case of the lower first premolar, the lingual cusp is lower than the buccal, so that in the X-ray picture a portion of the buccal cusp slightly projects above the lingual. If the teeth are not in good alignment, overlapping of the enamel margins occurs.

Then examine the films with a view to determining any irregularity, such as the presence of a root, or an erupted tooth, or a cyst, etc. Next, starting at some suitable point, such as the lower left molar region, systematically examine each tooth and its supporting tissue. Examine the crown, the pulp chamber, the periodontal membrane and lamina dura, the bone round the apex and the septum between the teeth. If any teeth are missing, look at the edge of the remaining alveolus. Residual sepsis is often overlooked.

It is by a careful systematic examination of films that you obtain an idea of the general condition of the mouth. Haphazard glancing over of films only tends to confuse your ideas, and important details are frequently overlooked.

V.—WHAT THE PATIENT OBSERVES

I would now like to consider the points patients observe when they come to your surgery for the first time.

When new patients come to you they are in a very observant frame of mind. They first notice the general tone of your waiting-room, whether it is cosy and homely, the type of books and periodicals laid out, the type of pictures on the walls, the general comfort of the chairs, whether the room is warm or cold; in fact, they notice these details which reflect the character of the man they are going to visit. I know one patient who would not visit a very good dental surgeon because his waiting-room always smelt of stale tobacco. Upon their entry into the surgery, the patients' first impressions are important. You can be sure that the first thing they will observe is the general air of cleanliness. Patients, expecially females, will observe the way in which you usher them to the chair. They will notice your general appearance, taking in such details as the cleanliness of your coat. Above all, you can be sure that *the* most important thing patients will look for is personal cleanliness. Notice will also be taken of the washing of your hands, the use of soiled towels or dirty instruments. Patients do not very much worry if your fillings are better than Mr. So-and-So's down the road. As an operator you may be excellent, but once you relax your vigilance over your personal cleanliness your patients will flock to the other dentist, and you will be left wondering why your practice is dwindling. While I am on this question of personal cleanliness, I should like to mention another point which is frequently overlooked by dentists, *i.e.*, halitosis or offensive breath. Working at such close quarters to the nose, we cannot help occasionally exhaling our breath into a patient's face, no matter how careful we are. If there is anything more disgusting to patients than to breathe a dentist's offensive breath, I should like to know it. Most of us have met with certain Saturday morning patients who reek of garlic, and we have experienced the full joys of working on their mouths, so that we can appreciate the patient's feelings when our own breath is offensive. Unfortunately, it is a thing that we ourselves cannot always detect. Usually it remains for one of our own family or a personal friend to inform us of this state of affairs. It is a point which needs careful watching, and one which is often overlooked. I do not propose to-night to discuss the ways and means of getting rid of it, but merely to draw your attention to the fact that, occasionally, your own breath may become offensive and it is your duty to act accordingly.

In conclusion, I do not pretend that I have dealt with all the aspects of observation. I have tried to show you the importance of accurate observation in our work, and I have touched on what, to my mind, are the more important points.

I should like to thank Miss Marsh and Mr. Bulleid for their assistance in the preparation of this paper, Mr. Worth for permission to use his X-rays, and you, gentlemen, for your excellent attention.

Guy's Hospital Gazette

(ESTABLISHED 1872)

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Life in a Ward at Guy's Hospital

IT is surprising how little the world changes. More years ago than I care to remember I was trained as a nurse in the wards of Guy's Hospital; I have recently returned to them as a patient, and it was as good as a tonic to be back in the old, unchanged surroundings again.

The cheery and familiar small boys still fling the Dispensary baskets about, and drop rolls of wool from the sack of dressings all over the ward; the boy with the soda-water syphons still plants them right in the way of the next pedestrian; the ward-maid still distributes tea-leaves under (or on) the bed and the probationer makes a great display of energy with a feather mop, and the student—" bless " him !—still turns night into day as he strides up the ward in heavy boots.

I had a very cheery bed close to the entrance to the ward, and had a much more amusing time as an onlooker than in the dim and distant days when I was a performer. Close to my bed was a large enamelled box for sterile dressings. Students would grope in this box for the dressing they required, and, unable to find it, would confide certain words and epithets to the box that are not found in any dictionary—many of them were quite new to me even, and I owe Guy's a debt of gratitude for that alone ! The dressing not being forthcoming, Head Nurse or Sister would be attacked. They, quite unmoved, would point to a nearby radiator, whereon lay a rich layer of dressings, gently airing. Collapse of the student !

One gets a lot of amusement listening to patients and " chars," and as a fellow-sufferer one is more able to appreciate the pluck and humour with which they carry on than one was when in an official capacity. One portly " char," with bulging ankles, low-necked blouse, and long rich ear-rings, stood with generous puce-coloured arms akimbo and chilblained hands on her capacious hips, talking to a ward-maid. " Wot I sez is this : I think, poor gel, she had just about a belly-full, and not only full, but over-flowing ! " This apparently referring to a sick friend.

One evening there was a lot of laughter from the patients in bed. Looking up, I saw a woman who had just got out of bed to put on her dressing-gown. She forgot, however, that the nightgown was open down the back. She soon realised the cause of the laughter, but reached for her dressing-gown quite unmoved, murmuring, " The ever open door."

The one and only fly in the ointment is the Preachers on Sunday nights. Two or three self-satisfied youths would appear, accompanied by an older man of smug and unctuous appearance and some " young " women. Furs and hats would be placed on chairs, and the charming bevy would stroll up the ward with a proprietary air and an " I am saved " look upon their faces. The older man would begin : " Now, my deah friends, I am having the privilege of a few cheering words with you on this, God's, night, and I would like you to choose the hymn that we may in unison from our hearts carol together." No response. " Ah ! my deah sisters, your sweet shyness does not permit you to word your choice. I then will choose some beneficial hymn. Let us sing together, ' Oft in danger, oft in woe.' " The first verse is read out with great unction. One of the " young " ladies makes several false starts on the harmonium, but at last gets going. Most of the singing is done by these visitors—usually a bar behind the harmonium. The service continues on recognised lines : a solo by one of the ladies, a dull and prosy address by the man in charge, a few prayers and the service is over. The bevy stroll back down the ward, to the almost unconcealed relief of the patients.

I was in Martha during a heat wave, and marvelled at the individual care given to each patient. Where possible the beds were taken into the open air, and those patients who could not be moved were provided with electric fans; real iced lemonade could be had at all times for the asking. The spirit of Martha was most excellent, and the attention and nursing were beyond criticism. I have been in many Nursing Homes, but give me Guy's all the time. It is indeed a Heaven in the Borough.

A. M. B.

William Gray Testimonial Fund

The following is a further list of contributors :—

J. E. Clark	H. C. Godding
A. V. Clemmey	C. Moffatt
F. Marsh	R. L. Frost
R. W. Cunningham	

Nursing News—Debating Society

DR. VERTUE proved an extremely helpful and interesting Chairman when he presided at the debate held in the Nurses' Home on Tuesday, October 24th.

The subject, "Spare the rod and spoil the child," presented us, he said, with a moral rather than intellectual problem, and the question was obviously "To beat or not to beat." Nurse Bevan proposed the motion, and dealt with the subject in its most literal sense.

She was chiefly concerned with the rod, stick or birch, and told us how effectual was the punishment of the schoolboy, who prefers a "tanning" to 500 lines or a lecture. She also reminded us that the Book of Proverbs was compiled by an experienced people, and that these maxims were of traditional and stirling worth.

Nurse McEwan, who opposed the motion, contended that such maxims were inapplicable to modern child guidance. She reminded us how we all appreciated correction which was kindly and reasonably given, and how our worst self invariably crept out when confronted with the sterner form of reproach.

Nurse Alcock, who seconded the proposition, took a wider view and suggested that discipline was a necessary factor in the upbringing of children, but that punishment needed discrimination, and should be administered by the right person.

Nurse Johnstone, seconding the opposition, rose with the words of Squeers: "Let any boy speak a word without leave, and I'll take all the skin off his back." She pointed out that repression was the ultimate result of bullying, and that to reason with the infant mind was the only way to obtain confidence and co-operation.

Lack of time prevented any heated public discussion. The Chairman, however, in his masterly summing up, showed little sympathy with the proposition. He acknowledged that he had seen houses where the unfortunate parent had spared the rod until he was literally "ground to dust," but he contended that the modern system of child guidance was admirable, and that, as the donkey is inveigled by the bunch of carrots, so should the child be led, not only by suggestion, but by strategy. He declared, from wide experience at his public school, university and, finally, hospital, that invariably the sons of the clergy were the "lads of the village."

When the vote was taken, 30 voted in favour of the motion and 64 against. It was interesting to see that both sister tutors were in favour of child guidance, and no doubt, however often we fail in our Final State Examinations, we shall be taken aside and receive gentle reasoning, to which our better selves will undoubtedly react.

E. C.

Sport

Rugby

Guy's v. Gloucester

ON Saturday, October 21st, Gloucester visited Honor Oak Park and were successful by 3 goals (1 dropped) and a try (17 points) to a penalty goal (3 points).

On the run of the game Guy's were unfortunate to lose by such a margin of points, as they were on the offensive for three parts of the game, but failed to penetrate an impregnable defence. Boughton, the visitors' full-back, gave a magnificent display—quite the best seen this season, his positioning, fielding and kicking being absolutely perfect.

Both sides were strongly represented, and, although Gloucester had P. C. Hordern and Tanner away, Guy's lacked the services of Johnson and Robin.

The conditions were ideal when Wadley kicked off for the visitors with the advantage of a slight breeze. Gloucester made ground to the Hospital's 25, when Giesen sent them back with a nice kick to near mid-field. Guy's heeled from the first scrum and a good movement by Giesen and Alexander promised danger, but Williams effected a good tackle. After the visitors had participated in a bout of passing, the Hospital forwards made a great dribble for some 30 yards, but Boughton gathered neatly and set his threes on the attack. Fifield and Meadows ran to within 10 yards of Guy's line before the latter was collared by Hogbin.

Following a scrum, the ball was flung out quickly to Hook, who darted through to Clegg, punted over the line, and Walshman was up to score the first try for Gloucester, which Boughton failed to convert from an easy position.

Fast play followed, and Guy's set up a series of attacks, and eventually Alexander gave Steytler a nice opening and the latter found touch near the corner flag. Following several line-outs,

Boughton relieved the pressure, but his side was penalised for offside and Hogbin kicked a good goal.

For a few minutes Gloucester took the upper hand and a long-kick by one of their forwards was fumbled by Clegg, and, following a knock-on behind the line, a five-yards' scrum was ordered. Guy's gradually worked the ball outside their half and followed up with a splendid bout of passing between the backs, but Lindsey was thrown into touch within a few yards of the line.

The visitors retaliated with a successful movement initiated by Meadows, who ran through the Hospital defence before passing to Shepherd. The latter sent out a well-timed pass to James, who ran in behind the posts for Boughton to add the goal points.

In the second half Guy's attacked from the kick-off, and Steytler made a clever run before cross-kicking to the right. Combined passing movements followed, and for a time the visitors were hard pressed. The Guy's threes were unable to make much headway, as they were very closely marked, especially by the visiting wing forwards.

At this stage the Hospital pack were doing particularly well, but in the set scrums the ball came out too slow for Bowles to avoid the attention of Meadows. However, they were very good in the loose, and on one occasion made a great dribble, which was only stopped by the full-back. Wright very nearly got over for Guy's when he came from the right wing to support Lindsey, but, unfortunately, he stepped into touch when getting clear.

Gloucester survived a series of raids, and finally sent Guy's back to their 25, where Steytler sliced his kick and, with Clegg failing to gather the ball, Welshman dashed up and scored another try, which Boughton converted; this was entirely against the run of play.

Guy's stuck to their task and again set up a warm attack, and Hogbin just failed with another penalty.

Near the end Boughton came up with his threes and, after accepting a long punt, took steady aim and landed a perfectly dropped goal from the half-way line.

Team.—W. B. Clegg; C. G. Wright, J. A. Steytler, P. C. Alexander, M. J. Lindsey; J. E. Giesen (Capt.), V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, G. J. Van der Merwe, R. J. Drummond, A. R. Clarke, T. A. Hale-Monro, R. A. P. Hogbin.

Guy's v. Harlequins

A FINE game was seen at Twickenham on Saturday, October 28th, when the Harlequins were successful by 3 placed goals and a penalty goal (18 points) to 2 penalty goals and a try (9 points).

Just before the match commenced a steady drizzle set in, which, coupled with a biting wind, made accurate passing almost an impossibility, and, although the ground appeared to be in excellent condition, both sides found it difficult to gain a proper foothold. However, when they settled down Guy's were surer in their handling, and in the second half in particular, brought off several excellent movements which deserved a better fate.

After the interval, the Hospital attacked so continuously that they got within four points of their opponents and looked as though they would succeed with ease, but, as against Gloucester, the "Quins," after defending their line for some 20 minutes, broke away, and eventually scored near the posts, which made the issue safe.

For the first quarter of an hour Guy's could not get going; in fact, everything they attempted went wrong, and it seemed as through the whole side was suffering from the Twickenham complex. Therefore it was not surprising to see the home side take the lead as the result of a splendid penalty kick taken by Style from near mid-field, after his forwards had carried out several dashing movements which looked dangerous on each occasion.

After this Guy's woke up, but the home forwards started another movement which enabled Tilling to round Johnson and score a try wide out for Style to convert with another fine kick.

Gradually the Hospital controlled the scrums, and near the half-way line Giesen sent out a sharp pass to Alexander, who, running strongly, seized on to an opening in a second, flashed through the defence, and sent in Wright for a copy-book try, but Hogbin's kick, although accurate, was just short of the posts.

After the interval Guy's attacked, but the Quins quickly sent them back, and within three minutes added to their lead when Howarth, well supported by his forwards, passed to Tilling, who eluded a tackle by Johnson and scored another try, which Style converted.

For the next 20 minutes Guy's took command of the game and attacked incessantly; their forwards obtained the ball fairly regularly and the threes carried out some fine passing movements which completely baffled the defence. During

the course of this onslaught, two penalties were awarded to Guy's, both of which Hogbin converted.

With only four points dividing the two sides Guy's set up another hot attack, and just when it appeared that they would score, the Quins followed up a long punt which was fumbled by Clegg, and carried play to the Hospital 25. From the line-out Bolton secured, and raced in for a try near the posts, which Style converted. This was entirely against the run of play, and the Hospital were distinctly unlucky not to have scored on at least two occasions previously.

Clegg was nothing like so safe as usual, and, although he stopped two dangerous forward rushes, he appeared very uncertain and slow with his fielding.

Wright was again excellent in everything he did, and was not only dangerous whenever the ball came his way, but managed to get across to support the other wing whenever necessary.

Bowles again came out of the ordeal with flying colours and proved a splendid partner to Giesen, who got through a lot of hard work, but his centres Steytler and Alexander had very little room to operate.

Hogbin was a tower of strength to the forwards, and he was ably supported by Darke and Hale-Monro in the loose.

Team.—W. B. Clegg; A. G. Johnson, J. V. A. Steytler, P. C. Alexander, C. G. Wright; J. E. Giesen, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, D. M. Leeming, R. J. Drummond, A. R. Clarke, R. A. P. Hogbin, T. A. Hale-Monro.

Association

Guy's v. London Welsh

ON Saturday, October 14th, the Hospital entertained the London Welsh at Honor Oak Park. A very enjoyable game resulted in a win for the London Welsh by 3 goals to 1, this, incidentally, being our first defeat of the season.

The team was slightly re-shuffled, Groom going to right half and Sprigings to centre forward to give a trial to James, who gave a very creditable performance.

From the kick-off Guy's attacked on the left, Sprigings passing on a centre to Harvey, and the winger scored with a beautiful low shot in the corner of the net.

The London Welsh now settled down and attacked repeatedly on the right, but found Henderson a large stumbling-block. Guy's forwards seemed unable to get going, there being a marked lack of thrust with Groom in the half-line.

In the second half the London Welsh quickly got going and soon equalised. Guy's were much slower now on the ball than in the first half, although their spasmodic raids always looked dangerous, but petered out before goal.

The London Welsh men played really well at this period, and scored twice in quick succession. In an effort to reduce the arrears Groom moved back in to the forwards, but it was too late. The score would undoubtedly have been greater but for the brilliant goalkeeping of Stoneham, who excelled himself in this match.

Result.—Lost, 3—1.

Team.—F. J. Stoneham; D. A. Priestley, A. M. Marley; R. L. V. Henderson, S. E. Osborne, W. A. Groom; H. Jones-Lewis, G. G. Rees, G. C. Sprigings, R. W. Harvey.

Guy's v. R.A.M.C. (Aldershot)

ON Wednesday, October 18th, the Hospital travelled to Aldershot to play the Royal Army Medical Corps, and defeated them by 4 goals to 3, in spite of changes in the side due to injuries.

The R.A.M.C. were faster on the ball and attacked from the start. From a clearance Osborne put Rees away, who put in a very fine shot, which the goalie managed to stop, but Groom, following up, bundled goalie and ball into the net.

A few minutes later the R.A.M.C. equalised, and exchanges became very even. Jones-Lewis made ground on the left and sent a beautiful cross-pass to the opposite wing, and Harvey put the Hospital ahead again. Just before half-time the Army again equalised.

Soon after the interval Henderson pulled a muscle in breaking up a right wing movement, and changed places with Jones-Lewis on the wing. The Hospital were now moving better, and were, if anything, faster on the ball now than were their opponents.

Rees gathered up a loose ball, beat the backs, and put the Hospital ahead again, but immediately afterwards the Medical Corps equalised with a third goal. Guy's, however, were not to be cheated of a victory, and Henderson, receiving a pass on the left wing, cleverly tricked the back

and scored with a magnificent drive, thus giving Guy's the lead, which they retained.

Result.—Won, 4—3.

Team.—E. Evans; R. C. Jackson, D. W. Buff; R. L. V. Henderson, S. E. Osborne, G. James; H. Jones-Lewis, G. G. Rees, W. A. Groom, S. C. Sprigings, R. W. Harvey.

Guy's v. St. Catherine's College, Cambridge

ON Wednesday, November 1st, Guy's travelled to Cambridge to play St. Catherine's College, whom they defeated by 5 goals to 2 after a very fast game.

Guy's lost the toss and played against the wind. From the kick-off Osborne sent Jones-Lewis away, and from the winger's centre Osborne shot hard into the corner of the net to put Guy's one up after four minutes' play. The home team attacked on the left, but Johnson cleared. James hit the cross-bar with a terrific shot, and from the rebound Rees struck the upright—hard luck, as the goalkeeper was out of position in both cases.

"Cats" then rallied, but the centre-forward had no support and play was transferred to the other end, where the goalie brought off two magnificent saves from Rees and Osborne. A sudden rush by St. Catherine's brought the equaliser, but soon after Sprigings and James converted two centres from Jones-Lewis, to put Guy's two up.

After half-time Guy's had practically all the play, and Patterson and Sprigings added further goals. The score would have undoubtedly been greater in our favour but for the magnificent display given by the "Cats'" goalkeeper.

Result.—Won, 5—2.

Team.—F. J. Stoneham; G. M. Johnson, D. A. Priestley; D. W. Bugg, S. E. Osborne, J. Thomson; G. C. Sprigings, J. Patterson, G. James, G. G. Rees, H. Jones-Lewis.

Guy's v. National Bank of India

ON Saturday, November 4th, Guy's entertained the National Bank of India at Honor Oak Park and defeated them 6—1.

Guy's won the toss and immediately ran into the attack. Jones-Lewis was held up on the left when nearly through, Rees had a long shot charged down, and Guy's were finding it very difficult to find a loophole in the Bank's defence.

The first goal came from the visitors, their centre-forward giving Stoneham no chance with a well-placed drive. Guy's immediately attacked from the centre on the left wing and James equalised. A few minutes later James received Stoneham's place kick, beat both backs and put Guy's one up with a ground shot. The opposing defence lost its efficiency after this set-back, and Rees soon added a third, giving Guy's a lead of 3—1 at half-time.

After the interval Guy's were mainly in their opponent's half, the Bank's attack never being allowed to get going due to some good first-time tackling by the backs. Thompson, who is combining extraordinarily well with Rees and Jones-Lewis, put the latter away and from the centre Sprigings put in the fourth goal. A little later the same player converted a pass from James.

At this stage the Bank's defence was completely over-run and, but for over-eagerness, Guy's could have doubled their score. As it was, absolute sitters were missed in front of goal. This sort of thing is very trying to the wing-men, and could easily be remedied with a little more care and practice.

Towards the end Osborne, who has almost turned into a sixth forward—much to the backs' disgust—got the forwards moving again, and from the resulting attack James scored the sixth goal.

Result.—Won, 6—1.

Team.—F. J. Stoneham; D. W. Bugg, D. A. Priestley; R. C. Jackson, S. E. Osborne, J. Thomson; G. C. Sprigings, J. Patterson, G. James, G. G. Rees, H. Jones-Lewis.

Hockey

Guy's v. Bart.'s

THIS game was played at Motspur Park on October 11th, on a ground inferior to the one to which the Hospital were accustomed, and this seemed to trouble them at first, with the result that Bart.'s scored three times before half-time. However, Guy's got used to the conditions and had several vain attempts to score.

In the second half, Guy's were better, Loden working hard at inside forward and Richmond being indispensable at full-back. There was no further score by Bart.'s, and just before the end Dryland shot a goal for the home team.

The game on the whole was quite good, but both teams suffered rather from the fact that there was only one umpire.

Team.—H. V. Brown; D. P. King, A. G. Richmond; A. W. Turner, R. G. Archer, A. C. Greene; A. E. Etheridge, J. E. J. Elliott, J. S. W. Dryland, A. E. Loden, J. B. Franklin.

Guy's v. R.M.A. (Woolwich)

AT Woolwich on Wednesday, October 25th, Guy's had a very close game, losing 2—1 to the home side.

The Hospital were the first to score shortly after the start through G. O. Jelly, whose return to the team strengthened the forward line. Throughout the game Guy's had more chances of scoring than their opponents, but several centres were allowed to pass right across the goal mouth, and shots went wide of the posts.

After one or two attacking movements the R.M.A. drew level at half-time with the scores 1—1.

In the second half repeated efforts on the part of the Guy's forwards just failed to produce effect; the opponents' circle was reached time after time, but in each case the home team's backs managed to clear.

The absence of R. G. Archer from the team was keenly felt, but J. Quick, who substituted for him, proved useful with his stick-work.

The Hospital goalkeeper, H. V. Brown, made several good saves and showed good judgment in running out, but before the end the R.M.A. scored the winning goal.

Team.—H. V. Brown; D. P. King, A. G. Richmond; J. Quick, A. C. Greene, A. E. Loden; J. S. W. Dryland, J. E. Elliott, G. O. Jelly, E. J. Parks, J. B. Franklin.

Guy's v. The Hawks

ON Saturday, October 28th, Guy's visited Walton-on-Thames for their first fixture with the Hawks, and were defeated by 5 goals to 3, which was quite a creditable performance considering their opponents had disposed of Reigate 5—0.

After a few minutes' play J. B. Franklin made a good run down the left wing and scored the Hospital's first goal. Soon the Hawks drew level, and the sides remained equal until half-time.

It was unfortunate that rain fell so heavily in the second half, but, in spite of this, the Guy's forwards showed improved form and combined better. There were one or two close shaves in front of the Hospital goal, and after sustained pressure the Hawks scored two goals in quick succession.

A "short corner" for the Hospital which Franklin hit resulted in a magnificent goal by A. G. Richmond, the Hospital Captain. He carried out the stopping and hitting of the ball unaided, and obtained a suitable reward for his hard work throughout the game.

The Hawks' forwards pressed hard after this and, chiefly owing to the speed of their right wing, they added two more goals.

Shortly before "no side" G. O. Jelly finished off a good movement by the forwards and scored another goal for the Hospital.

Team.—H. V. Brown; A. C. Greene, J. Quick; E. P. Cutler, A. G. Richmond, A. E. Loden; J. S. W. Dryland, R. C. Hill, G. O. Jelly, E. B. Rowe, J. B. Franklin.

Boxing Club

Guy's v. Oxford University

A MATCH against Oxford had been a regular annual fixture in the years immediately following the war, when the Hospital had an exceptionally strong team. With a view to resuscitating interest in boxing at the Hospital, this match was revived this year, and the teams met on Saturday, November 4th, in the O.U.B.C. gymnasium in the newly-built ice-rink at Oxford.

The intention had been to match the Hospital team against an Oxford A team, but the Oxford captain produced a team which was probably little short of his best, despite the fact that it contained several freshmen. The result was that the Hospital lost by nine matches to none. But the team was in no way discredited by this heavy defeat; on the contrary, a good evening's boxing was witnessed, and the Guy's representatives, though all losers, received in every case generous applause from an impartial audience for their very plucky showing. In fact, the applause given to the losers was, in several cases, louder than that accorded to the winners. Each fight was scheduled for three rounds of two minutes.

Feather-weight.—I. P. Norval (Rhodes University and B.N.C.) beat H. Cameron (Guy's). The Oxford man had a peculiar style, of which a feature was a very quick and hard right. Cameron assimilated some heavy punishment, and the fight was stopped in the third round.

Light-weight.—J. D. Bates (Sevenoaks and Keeble) beat A. J. M. Roberts (Guy's). Roberts did best in the last round; he boxed throughout

coolly and in nice style, finishing the stronger of the two. But his upright stance exposed him to his opponent's right, by which he was dropped for a short count in the first round. This lost him the fight.

Welter-weight.—S. H. Beer (University of Michigan and Balliol) beat B. A. Hamilton (Guy's). The American charged in at the first gong, and happened to connect with some wild swings. The fight was stopped in the first round.

Middle-weights.—G. L. Darling (Winchester and Queen's) beat T. Woolston (Guy's) after a scrambling fight in which little skill was exhibited on either side.

S. K. Kingston (Melbourne, Australia, and B.N.C.) beat T. H. Denton (Guy's). The Australian was the stronger, but Denton mixed it with a will. He was heavily punished in the last half-minute of the second round, at the end of which he was half "out" on his feet, and it seemed unlikely that he would be able to come up for the last round. To everyone's surprise, however, he not only came up, but carried the fight to the opponent, who was forced on to the defensive. After Kingston had been given the decision he congratulated the Guy's man with heartfelt warmth on his astonishing pluck, of which, as Denton left the ring, the audience evinced its appreciation by loud and prolonged cheering.

W. Chassels (Glasgow Academy and B.N.C.) beat R. O. Yerbury (Guy's). No sooner had the two shaken hands at the beginning of the first round than the Oxford man swung a formidable right which, more through luck than skill, connected with Yerbury's chin. The latter went down in a neutral corner, and it looked heavy odds on the fight being finished in the first round. But Yerbury got up and, though comfortably beaten on points on the first round, kept out of the way of his opponent's right for the rest of the fight. In fact, Yerbury won the last two rounds by the use of his extra reach and long left. The judges differed on the verdict, and the referee's casting vote went to Oxford. Again the crowd showed greater appreciation of the loser than of the winner.

Light-heavy-weights.—R. H. S. Clouston (Stowe and B.N.C.) beat P. W. Clarkson (Guy's). Clouston was this year's Inter-Varsity winner, and also was the winner in the heavy-weights of the Universities, Hospital and Cadets championships. He is a strong and experienced boxer, with a dangerous punch in both hands. On this occasion Clarkson was suffering from an attack of tonsillitis, and was feeling far from well. But, despite this handicap, he carried the fight to his redoubtable opponent, and did not lose by much. He deserves every congratulation on an excellent performance.

H. Muller (University of Cape Town and Worcester) beat C. W. F. Outred (Guy's). Muller was also a winner (of the light-heavy-weights) in the Universities, Hospitals and Cadets championships this year, and is a very competent performer. As usual, he made use of a hard and well-timed straight left against his aggressive, hustling opponent, who refused to be slowed up and was always dangerous.

Heavy-weight.—Lord David Douglas Hamilton (Harrow and Balliol) beat J. Van der Merwe (Guy's). Hamilton comes of a family with a strong boxing tradition, and has been carefully taught. He has a larger physique than his brothers, tipping the scale at over 13 stone 6 lb. Shaping more like a professional than an amateur, he was too experienced for the Guy's man. Having been dropped by a very heavy right on the chin in the first minute, Van der Merwe pluckily staggered to his feet, to receive a fusillade of smashing blows to the body and face (one of the former distinctly low), which Hamilton loosed upon his nearly defenceless opponent. The Guy's man groggily weathered the tornado for about a minute, when the referee stopped the fight. Several members of the audience were of the opinion that Hamilton attacked his opponent with unnecessary fury, and that, after having gained his early lead, he might have given his man more of a chance.

Preliminary arrangements have been made for another fixture with Oxford next year, but with a definitely "A" team. In the meanwhile it is hoped that those members of the Clubs' Union who have any boxing experience, or who, even though inexperienced, are interested in boxing, will make themselves known to the secretary and come down to the gymnasium on Tuesday evenings. No better instructor could be found in England than Alf Hewitt, of whom it can be said that, unlike some of his colleagues, he is as conscientious about grounding the novice in the rudiments of boxing as about making the most of his chosen pupils in preparation for matches or tournaments. If, in fact, it were known what a first-class, not to say unique, teacher and trainer Hewitt is, the Boxing Club would have a larger membership.

C. P. BLACKER

Golf

1st Round Inter-Hospital Cup

Guy's v. Middlesex

THIS match was played at West Hill on Thursday, October 12th, and resulted in a win for Guy's by $7\frac{1}{2}$ matches to $4\frac{1}{2}$.

SINGLES

Guy's		*Middlesex*	
P. Hanbury	0	J. Neal (3 & 2)	1
D. A. Ibbetson	0	J. L. Reid (4 & 2)	1
W. C. Kendrick (1 up)	1	F. L. Dickson	0
C. B. Elstob	$\frac{1}{2}$	E. W. Hart	$\frac{1}{2}$
H. C. A. Weighell(2&1)	1	N. J. Haggar	0
F. I. Evans (6 & 4)	1	J. Dow	0
A. L. Young (6 & 4)	1	J. H. Bentley	0
C. L. Blacklock	0	D. Jeffris (1 up)	1
Total	$4\frac{1}{2}$	Total	$3\frac{1}{2}$

FOURSOMES

Guy's		*Middlesex*	
D. A. Ibbetson H. C. A. Weighell (4 & 2)	1	J. Neal J. H. Bentley	0
W. C. Kendrick C. B. Elstob	0	J. L. Reid E. W. Hart (5 & 3)	1
P. Hanbury A. L. Young (5 & 4)	1	F. L. Dickson N. L. Haggar	0
F. I. Evans C. L. Blacklock (1 up)	1	J. F. Dow D. Jeffris	0
Total	3	Total	1

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES OF LONDON.
FINAL EXAMINATION.
October, 1933.

Surgery.

E. E. Evans — S. E. Roberts

Forensic Medicine.

B. D. Sachdeva.

Midwifery.

P. C. Alexander — D. P. King

Papers by Guy's Men

H. W. Barber. ? Lichen plano-pilaris, Case of digitalis. *Proc. Roy. Soc. Med.*, xxvi, Oct., 1933, p. 1548 (Sect., Dermat., p. 70).

E. B. Dowsett. Unique dental cyst. *Ibid.*, p. 1562 (Sect., Odontol., o. 52).

E. P. Poulton. Presidential Address: New views on the metabolism of carbohydrates and fat and its relation to insulin; some results with the high carbohydrates; low fat diet in diabetes. *Ibid.*, p. 1591 (Sect., Ther. and Pharmacol., p.3).

G. B. Pritchard. Pathological changes in a composite odontome. *Ibid.*, p. 1563 (Sect., Odontol. 53).

C. P. Symonds. The clinical significance of vertigo. *Lancet*, 1933, ii, 959.

E. C. Warner. Rheumatic disease in adults. *Lancet*, 1933, ii, 993.

W. R. Spurrell and B. A. McSwinney. The outline method for investigating gastric motility. *J. Phys.*, 1933, lxxix, 423.

—— Influence of osmotic pressure upon the emptying time of the stomach. *Ibid.*, 437.

Arthur F. Hurst. The modern treatment of some gastric and intestinal disorders. *Practitioner*, 1933, cxxxi, 353.

Appointment

Louis F. Beccle, M.B., B.S., appointed Assistant Deputy Coroner for East London and Deputy Coroner for Metropolitan Essex.

Change of Address

J. B. Blaikley, 5, Hartland House, Tooley Street, S.E.1; *Hop* 2594. Also 61, Queen Anne Street, W.1; *Welbeck* 8180.

R. W. Whitworth, 24, Warwick Row, Coventry. *Coventry* 4343.

John Lebran, 10, King Edward's Road, E.1.

D. W. James, White Gates, London Road, Hitchin, Herts. *Hitchin* 554.

Births

BLAIKLEY.—On October 10th, 1933, at 27, Welbeck Street, W.1, to Vivien (née Johnson), wife of J. B. Blaikley—a son.

CARTWRIGHT.—On October 5th, 1933, at Boreen, Newport, I.W., to Gwendoline, wife of Leslie Mutlow Cartwright—a daughter.

Marriage

LEBRAN — FRANCIS-DAVIES. — Dr. J. Lebran, Uralea, Pontnewydd, Mon., to Miss A. B. Francis-Davies, M.S.R., Radiographer, also of Guy's.

JAMES—LEFEAUX.—On September 7th, 1933, at the Congregational Church, Purley, Surrey, David Worsley James, of Sanderstead, Surrey, to Jessie Lefeaux, of Purley, Surrey.

Death

CARDIN.—On Tuesday, October 31st, 1933, Herbert Cardin, M.R.C.S., L.R.C.P., from heart disease, at Telford Court Hotel, Streatham Hill, S.W.12, aged 61 years.

EDS. { M. J. McA.
C. G. B.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLVII *25th November* 1933 *Number* 1183

PASSIM

IN a recent address to the Physical Society Dr. Blacker described very fully the situation with regard to the sterilisation of the unfit. With this flaming torch in our midst it is a pity that so lethargic an interest should be taken in the subject at Guy's. The idea of wider application of limitation of procreation must be present in every mind.

Dr. Blacker discussed the unfortunate circumstances of the rejection of the last Bill in Parliament very trenchantly. The cure for apathy surely rests first and foremost with the Medical profession, and this important crusade should be joined whole-heartedly by its members. As was pointed out, the results will not be seen in our lifetime, and only slightly by the next generation, but the ultimate effect on the national welfare will be striking. No schemes for housing improvement, abolition of crime and misery can prosper while those whom they are designed to benefit are at fault. Only a far-sighted man can feel the urgency of the call, only one who is on intimate terms with humanity can act, and the responsibility rests with us as medical advisers.

Not only the mentally and physically unsound are our thought; the pecuniarily sick can also be benefited if the means of family limitation is better understood. Pseudo-morality, ignorance and disinterest hedge us about and are not to be broken down by a National Birth Control week or by issuing propaganda advocating bigger and better contraceptives. We need the still small voice reminding the public of its duty, and who can speak with greater authority than ourselves?

We hear from all sides the cry, "Let the medical profession stick to Medicine and not meddle with affairs outside its sphere," yet extra instruction in public health has recently been demanded by all the examining bodies, while this, the essence of all preventive medicine, is neglected. We feel that contraceptive technique should be taught to the gynæcological dressers, as the subject is not sufficiently complicated to add much to the pangs of the already labouring student.

It is not for us to discuss the ethical pros and cons. Anyone who has been in the wards for six months can call to mind five cases which would never have been admitted had the necessity for curbing the exuberance of the germ cells been realised. Anyone who has been on the district has felt despair. This is no exaggeration; it is a fact which brooks no denial. The objection that wide knowledge of contraceptive methods would bring immorality into the scope of the man in the street is false; knowledge of the effects of alcohol has not stamped out drunkenness. If promiscuity is to take place, as it undoubtedly does, it is far better that it should be free from undesirable consequences, which, after all, do not punish the individuals concerned so much as the community at large.

Amongst many of the better educated there is still a revulsion against what is, at first thought, a somewhat unpleasant subject, and it is dismissed from the mind without justification. These may be influenced by conversation with a medical man and learn to steer their multiparous proteges and employees into the right channels for advice.

But already there are signs of quickening. Advice is being sought more and more from the general practitioner. The *Practitioner* has recently published a number containing a symposium of the various aspects of Birth Control, which should be read by all who have not already done so. The East Street Clinic holds periodical voluntary demonstrations which are attended more, we feel, from a natural libidinous curiosity than from a realisation of their full import. But why do we and the patients have to go to Walworth? Surely it would be better to bring the mountain to Mahomet and start a clinic under our own roof.

▭

WITH the inauguration of two new anæsthetic appointments at the beginning of the new medical year, we looked forward to the provision of an adequate staff of anæsthetists, and hoped to see the assistant surgeons as well as the senior surgeons catered for in this respect. This hope has not been fulfilled, and we note with amusement the activities of the Resident Anæsthetist. At the very time of day anæsthetics are most prevalent he is told by his seniors that he need not be there. On the other hand, when he is least required, at night, he must be on call in the Hospital. At the same time we would deplore the abolition of the ex-H.S. merely in order to justify the anæsthetist's residential duties.

▭

MANY Guy's men, we are sure, will regret to hear of the death of Mr. Frederick E. Ash, the publisher for many years of the *Guy's Hospital Gazette*. Past Editors, for the last 40 years, will recall his genial and courtly manner in all their associations with him, and his kindly personality must have been known to many hundreds of Guy's men during their student and senior years at the Hospital, as he was practically a daily visitor.

He will be remembered for instituting the series of Christmas Cards which were printed and presented to the Hospital for sale, the whole of the proceeds from that sale being handed over to the funds.

An appreciation of Mr. Ash, sent to us by one who had many opportunities to value his help and kindness to the Hospital, will be found in this *Gazette*.

▭

THE starlings are at last leaving us, and the diminishing volume of bird-song at twilight and the lessened danger of bird-fall at night are one of the many reminders that Christmas will soon be here. This year there is no edict against ward decoration on account of National Economy, and paper flowers are not considered unpatriotic. The Nursing Staff is, therefore, already busy planning and working at the *decor* which is to surprise and transform the wards at Christmas; willing patients are given other tasks than the making of "stock," and Sisters lie in wait to press-gang any dresser who shows interest or looks artistic. At bath-time in the College the sounds of the Christians half-awake saluting the happy morn have an added purpose, for the rumour that there will be no "Niggers" this year is false. We hope that the other annual rumour (that there is to be no Nurses' Dance) is equally unfounded.

▭

AT a Residents' Meeting on November 15th Mr. Payne was elected President and Mr. Bowen-Davies, Vice-President, for the coming three months. We wish them the best of luck and the heartiest support in tackling the threefold task of the "Niggers," the Play and the Residents' Ball. This last function is fixed for Friday, 26th January, at Grosvenor House, and Mr. and Mrs. Rowlands have kindly consented to act as Host and Hostess. We recommend our readers to make a note of this date.

▭

THE Going-Off Dinner was a smaller and more sedate gathering than usual, and all were able to appreciate the excellent meal on which the catering company are to be congratulated. There is little doubt that this was the most enjoyable and successful dinner held for some time.

▭

HEARTY congratulations to P. C. Alexander on being chosen for the first Trial match. We wish him the best of luck and hope to see him in the English side, especially at Twickenham on March 17th against Scotland.

▭

IT is with regret that we announce the retirement of Mr. M. J. McArdle from the editorship of the *Gazette*. Many must have admired in "Passim" his logical argument and scholarly style, but only those who worked with him could appreciate his energy in collecting and editing material and, above all, his criticism and sound judgment.

Injuries of the Wrist

A Clinical Lecture delivered at Guy's Hospital on Thursday, September 28th, 1933, by Grant Massie, Esq., M.S., F.R.C.S.

GENTLEMEN,—I propose to discuss with you to-day certain common injuries of the wrist. The first and most common of these injuries, to which I would draw your attention, is the condition known as a sprain.

Sprains of the wrist comprise two definite clinical entities. The first of these is a sprain of the tendons which pass across the joint, and the second a sprain of the ligaments of the joint itself. Both injuries are caused by a fall on the outstretched hand, the difference in their causation being that in case of sprains of the tendons the muscles of the forearm are actively contracted at the moment of the injury, while in sprains of the ligaments the muscles are relaxed. The tendons most commonly injured in this way are those of the extensor muscles. The ligaments affected chiefly are the lateral ligaments of the joint.

I have collected at Out-Patients' two cases whom I will show you to illustrate the two conditions to which I have referred.

Here, first, is a young man, aged 19, who, a year ago, fell on to his outstretched hand while playing football, and has had trouble with his wrist ever since. When you look at the two wrists together and note their contour you will see that the outline of the depression known as the "anatomical snuffbox" is filled in in the case of the left wrist. If you turn the affected wrist round to the front you will also see that the swelling extends to the lateral part of the wrist and obscures the outline of the tendons which go, particularly, to the thumb. The remainder of this wrist on the dorsal surface is normal, and the appearance of the volar surface, except for the feature I have shown you, is normal. When you come to the movements of the wrist you will see that on the sound side flexion is complete to about 90°, and extension, which is roughly three-quarters of that, is also complete. Ulnar deviation, or adduction of the wrist, takes place to about 30°, and radial deviation or abduction to a little less, *i.e.*, to about 15° or 20°. If you compare those movements with those in the affected wrist, you see that flexion is only three-quarters of a right angle, and extension is limited to a corresponding degree. The pain and tenderness are particularly marked over the radial styloid, and less so over the anatomical snuffbox; but, in general, the radial part of the wrist, *i.e.*, that part which is adjacent to the radial styloid, is swollen and tender. When I first saw this man I thought that he had had a fracture of the scaphoid which had escaped recognition, but on X-ray examination the carpal bones are normal, and there is no bony injury in the wrist. You will note that the limitation of movement and pain have been persistent features of the case for 12 months.

The diagnosis follows on these points: There is no bony injury, there is no spasm, and we must conclude that a result of the accident is a traumatic condition not affecting the bones of the carpus but affecting the soft tissues. On forced lateral movement there is some pain over the lower end of the radius, particularly in the region of the tendons which go to the base of the thumb, *i.e.* the abductor pollicis longus and the extensor pollicis brevis. The long extensor of the thumb is also tender. This is a clinical example of the first condition I pointed out to you, namely, a sprain of the tendons of the wrist. The treatment for this is activity, and this is most important. In all the conditions which I am about to discuss with you now there are, generally, only two lines of treatment: the one is rest and the other activity. It is essential, in treating these cases, that you should make up your minds, at the outset, which is the appropriate method to be followed in the particular case. The treatment of such a case as the one I have shown you will comprise, first of all, heat, which will induce hyperæmia in the part, and then massage and active movement. In general, active movement is more desirable than passive movement, though passive movement is required in some cases in the form of manipulation under a general anæsthetic. The normal range of movement has been impaired by the formation of adhesions, and if it is not restored in a comparatively short time by the measures I have suggested, the proper course is to give an anæsthetic and manipulate the wrist. Thereafter proceed with massage and exercises to maintain the mobility which you have thus succeeded in establishing.

The second case, which I am about to show you, illustrates the second variety of sprain, namely, a simple sprain of the wrist, particularly affecting the lateral ligaments.

The patient, a woman aged 50, says she slipped in the street 18 months ago, and in an effort to save herself from falling she grasped a sandwich board, which fell and let her down on to her face. In this case you find, when you examine the wrist, that there is full flexion, and also full extension; the movement of ulnar deviation is complete, while that of radial deviation is

restricted. The latter movement, you will recall, is never as free in the normal state as the former, because the radial styloid projects to a lower level than the ulnar styloid. This patient has a sprain of the ulnar collateral ligament of the wrist, the maximum point of tenderness being the styloid process of the ulna. The range of movement itself, when I do not subject the collateral ligaments of the wrist to any undue pull, is normal and perfectly free from spasm, and you will notice that the chief bony points of the wrist, including the radial and ulnar styloid processes, maintain their normal relationship to each other; there is no swelling of the joint and the tenderness is strictly limited.

Those two cases will, I hope, illustrate two very common conditions about which the books do not tell you very much. Both illustrate the pain and disability to which these minor injuries give rise in the absence of appropriate treatment in the beginning. In the treatment of sprained joints it is wise to start with movement as soon as possible; the only feature which should deter you in this is pain. It is proper treatment in these conditions to immobilise the joint by means of a crepe bandage and cotton wool for a few days, but you should, as soon as possible, discard such measures of immobilisation and proceed to mobilise the joint to the full extent. In neither of these cases were these measures carried out, and you will observe that the incapacity resulting has been both severe and of long duration—in the first case a year, and in the second a year and a half. It is cases such as these that, not unnaturally, seek relief at the hands of the bone-setter.

The foregoing conditions are more common in practice than those I am going to discuss with you now.

The second common condition is Colles' fracture. In this injury you have a fracture immediately above the articular surface of the radius; it is often given as $\frac{3}{4}$ in. or $\frac{1}{2}$ in. above the carpal articular surface. Actually, as you will see if you look in any of these specimens, the line of fracture lies nearer to the carpal surface than the books indicate. The fracture is an oblique one, and the deformity is a threefold one. Firstly, the lower fragment is displaced dorsally and upwards. Secondly, it is rotated around its transverse axis so that the carpal articular surface is tilted backwards. Thirdly, it swings around its attachment to the ulna in such a way that the radial styloid process is raised in relation to the ulnar styloid process. The lower fragment is at the same time abducted, and I may mention that this abduction deformity is often exceedingly difficult to correct.

There are many varieties of Colles' fracture, as you will observe in the Museum specimens before you. Sometimes the fracture is a comminuted one, the whole of the lower fragment being simply crushed. Sometimes the fracture is T-shaped, involving the carpal articular surface, and sometimes you find there is a fracture which runs obliquely on to the dorsal surface of the radius, and so gives you a dorsal dislocation of the carpus, and the volar part of the shaft being left intact. This last instance is more strictly a fracture-dislocation of the wrist, in the same way that Potts' fracture is a fracture-dislocation of the ankle.

It more commonly happens than otherwise that the patient is elderly and so the bone is comparatively brittle; and it commonly happens that the lower fragment is impacted in the upper.

One point of clinical importance is worthy of note in regard to this matter of impaction. If you look at the ordinary contour of the lower end of the radius you see it runs as I have sketched it; the contour is such that the radial styloid comes down to a lower level than does the ulnar styloid, and in cases in which the fracture is of the crush variety, you get this condition in which the radial styloid is shifted upwards, and the carpus, in consequence, is tilted over towards the radial side. The radial styloid and the ulnar styloid then come to lie at the same level. When this occurs, the wrist being tilted to the radial side loses its normal range of ulnar deviation. I mention this because one commonly sees, long after the original injury, cases in which there has been little or no dorsal displacement, but merely a crushing of the lower fragment. The patient then complains of pain, with limited lateral movement of the wrist. Usually there has been an attempt made at the time of the injury to correct the deformity, and when the patient comes for treatment it is usually too late for this to be undertaken.

To return to the ordinary Colles' fracture, you no doubt know that, until lately, it was the common teaching that reduction should be followed by early movement; and it has been the common practice in many hospitals to reduce the fracture and to apply a Carr's splint, and thereafter to send the patient to the Massage department at the end of the third or fourth day. I may tell you now that the results in Colles' fracture are very much worse than most of us appreciate, and it is, I think, largely in consequence of this recognition that there has been a revision of our ideas on the subject of its treatment. It is now the more common practice to immobolise these fractures after reduction, for as long as three or

four weeks. In the reduction of Colles' fracture our aim is to reduce the lower fragment to the position which it occupied before the accident. I feel that this is best done over a well-padded wedge, seizing the lower part of the radius with one's finger and thumb. I do not favour the reduction of Colles' fracture by means of force exerted through the carpus, and I do not think that seizing hold of the carpus and thus trying to reduce the lower fragment, which is attached to the carpus by the ligaments of the wrist, is likely to be effective; you should get your fingers on to the lower fragment, and you should reduce it in such a way as to overcome the dorsal displacement and the radial displacement as well; the radial and ulnar styloids should resume their normal relationships to each other. Thereafter you should immobilise the wrist, but not the fingers, in a dorsal plaster cast, that is to say, a slab of plaster applied dorsally over wrist and forearm. I do not think it is usually necessary to surround the whole wrist and forearm in a plaster cast.

You may ask why a bad result so commonly ensues in this fracture. I think the chief reason is imperfect reduction and, consequent on this, the inevitable traumatic arthritis of the wrist. If you do not restore the articular surface to its normal alignment, a traumatic arthritis will ensue.

There is one very curious sequel to fracture of the lower end of the radius to which I would like to draw your attention now, in case some of you are not familiar with it—that is, rupture of the tendon of the extensor pollicis longus, the long tendon of the thumb, which occasionally occurs six or twelve months after the Colles'. The tendon of the long extensor of the thumb passes through its own groove on the back of the radius. This structure is involved in the usual type of Colles' fracture, and the tendon is gradually subjected to a process of rubbing, so that it gradually becomes attenuated, and finally gives way. This is the only complication, apart from traumatic arthritis, to which I wish to refer to-day.

The third injury I want to discuss with you is fracture of the scaphoid. This may occur from a variety of reasons; sometimes direct trauma, sometimes a fall on the outstretched hand, very often as a result of force which you would not call, in the ordinary way, violence. The scaphoid lies beneath the radial styloid, and its position depends on the position of the wrist. When the hand is placed in the position of radial deviation, the scaphoid lies more or less horizontally in the way I am sketching; when the hand is placed in the opposite position of ulnar deviation, the scaphoid lies vertically, that is to say, its axis has moved through an angle of 90°. You may have a fracture of the scaphoid occurring in either position. The line of fracture usually passes across the middle, and in those cases in which the bone is placed vertically at the moment of fracture impaction is apt to occur.

There is one other fracture which can occur, namely, a fracture of the tuberosity, which occurs close to the point at which the radial collateral ligament of the wrist is attached. Fracture of the tuberosity is an extra-articular injury, and it has no great significance. As it does not involve the articular surface of the scaphoid and is not complicated by the arthritis which you see so often in the ordinary fracture of the scaphoid, I only mention it in passing.

The more common fracture of the scaphoid is a very much more important one, as you will see that the line of fracture involves two joints—the wrist joint and the mid-carpal joint. The signs and symptoms are very important, and are often overlooked. They are these: First, there is localised pain, distal to the radial styloid, *i.e.*, in the "anatomical snuff box." The second clinical sign is pain elicited on tapping the head of the third metacarpal bone, this being transmitted to the site of fracture. The third sign is limitation of movement, particularly radial deviation. This fracture is complicated by another condition, namely, absorption of bone. If you examine the X-rays of an untreated fracture of the scaphoid of some months' duration you will often see a cavity, of various size. This is filled with a semi-gelatinous material, which is absorbed bone, and this condition is typical of old-standing fractures. The diagnosis in recent cases must be verified by X-ray examination.

The treatment of recent fractures has been considerably changed in the last year or two. Not very long ago it was the current practice to excise the fractured bone, and I think I am right in saying that the results, in general, were very poor. The patient, more often than not, developed a traumatic arthritis, and particularly a weakness which, in the case of a working man, is a very serious disability. These patients from whom the scaphoid has been removed will commonly tell you they cannot pick up heavy weights, and that the wrist does not feel strong; further, there is apt to be constant pain in the wrist.

The present method of treatment, which we owe to Bohler, of Vienna, is immobilisation of the wrist, but not the fingers, in plaster of paris, the wrist being in the position as for writing, *i.e.*, in slight extension and slight ulnar deviation. The plaster which is put on extends from 4 inches above the wrist to a point short of the knuckles and the metacarpal heads, including the thumb. This immobilisation must be maintained for a

minimum period of three to four months, a fact which it is very important to remember. It is clear that a bone which has two large articular surfaces gets its blood supply from the same source as the ligaments which attach this carpal bone to the other carpal bones. The blood supply of the carpal bones is not very good, and immobilisation must be continued to allow the new blood vessels to grow from one side of the fracture to the other.

Another point is that it is, in all probability, true to say that fractures of the scaphoid may be persuaded to unite long after the occurrence of the original injury. I have seen a case in which a fracture of the scaphoid had been overlooked for five years and had not been immobilised, and after 13 months of immobilisation the fracture eventually healed. It is true to say that union will almost certainly occur if you can induce the patient to allow immobilisation to be carried out for a sufficient time. I regard removal in fracture of scaphoid or any part of it as an operation which should never be undertaken until prolonged fixation has been tried.

The fourth condition I wish to refer to is dislocation of the semilunar bone. This dislocation is a fairly uncommon clinical condition, but it is an injury which has certain definite clinical signs, and if you learn them it will prevent you overlooking the condition when you meet it. You know, of course, that dislocation of the wrist caused by trauma is extremely uncommon. The nearest approach to it is the condition which I show you in this X-ray, in which you will see that the carpus, excluding the semilunar bone, has been dislocated dorsally. These injuries are, nearly always, due to falls on the outstretched hand. In the events which lead to dislocation of the semilunar bone the first thing which happens is that the whole carpus is dislocated backwards, with the exception of the semilunar, which, by reason of its attachment to the lower end of the radius, is held firmly in place; it is purely a matter of the strength of certain ligaments, and the line of dislocation runs as I show you in this sketch, so that the whole carpus is driven backwards, leaving the semilunar bone fixed in its normal relationship to the lower end of the radius. The usual event is, that as soon as the carpus is dislocated backwards in the way I have shown, it undergoes a spontaneous reduction, and in the reduction of the carpus back to its normal place the semilunar, which was originally unaffected, is now displaced forwards.

If you think of the anatomy of the part you will recall that when the semilunar bone is displaced forwards it comes to lie in the tunnel beneath the anterior ligament of the wrist. This tunnel encloses the median nerve and the flexor tendons of the fingers. The condition is usually due to a fall on the outstretched hand, and the patient is usually a young working man. The accident is followed by great pain and swelling, with little to see on the back of the wrist; the radial and ulnar styloids are in their normal positions. The patient experiences difficulty in flexing the fingers, and there is pain and tingling in the index and middle fingers due to compression of the median nerve. That is the clinical picture of dislocation of the semilunar bone, which results from the mechanism which I hope I have made clear to you. The swelling is mainly confined to the front of the joint.

The treatment of this condition should be, whenever possible, reduction of the bone. I have never succeeded in reducing a dislocated semilunar bone without operation. It has been done, but obviously it is a difficult thing to do, because even when the parts are exposed by operation you will find it difficult to persuade the semilunar to return to its normal position.

Reduction by operation is best done from the back, by making a vertical incision which exposes the extensor tendons and their sheath. When the tendons have been retracted you will find the small chink leading to the palmar surface of the carpus, where you will see the dislocated bone.

Another point is this. You see that in the first stage of semilunar dislocation the semilunar retains its position owing to the strength of the ligaments which hold it to the lower end of the radius; in the second stage they still hold, and the semilunar turns right round, so that the surface which normally faces the os magnum now looks towards the palmar surface. In this skiagram which I show you you can see the semilunar bone lying outside the carpus, so rotated that the concave lower surface looks forwards. The median nerve and flexor tendons thus pass across the dislocated bone. I should add that open reduction of the bone is sometimes impossible, and when this occurs its removal will be necessary.

The remaining lesions of the wrist are all comparative rarities, and I can conclude by grouping them together as follows:—

Fifthly, you may find a fracture of the scaphoid and a semilunar dislocation occurring together. This, obviously, is to be treated by reduction of the semilunar, and immobilisation of the carpus. The pain, stiffness and disability which follow an ill-advised removal of both these bones are extremely severe.

The last injury in this group which I want to speak of is fracture of the cuneiform bone. And occasionally you see cases of fracture of the os magnum.

All these fractures of the carpal bones are to be treated by prolonged immobilisation.

Fact and Fiction in Clinical Medicine

By Maurice E. Shaw, Esq., M.D., M.R.C.P., Assistant Physician and Vice-Dean of the Post-Graduate College, West London Hospital

" *So much for observation as a means of diagnosis. Next comes the History. Now this is comparatively unimportant. Your natural tendency is to lay too much stress upon history.*"

THE Guy's student of to-day may find it difficult to believe that the words just quoted are to be found in a clinical lecture delivered to Guy's students and published in the *Guy's Hospital Gazette*. The importance of taking a careful and thorough history (or anamnesis as it is sometimes called by those who are fond of long words) before proceeding to examination is insisted upon by nearly every teacher of clinical medicine. It is, in fact, a tradition, but tradition is not necessarily a sound basis for education.

I had for some years been idly turning over in my mind the value and true place of history-taking in clinical work when I came across the lecture from which I have taken the three sentences which serve me as a text. No one will be surprised when I say that the lecture was not given by a present member of the Staff. Some of the latter may, perhaps, have been present when it was delivered by Dr. Pye-Smith 35 years ago. His words, as I read them, seemed like a distant echo of my own random thoughts upon the subject. My attention to the question was first attracted by the realisation that much of what our patients tell us is inaccurate, misleading and, sometimes, actually untrue. This applies more particularly to hospital patients, but the history given in the consulting-room is not necessarily either more truthful or more accurate than that given in the Out-Patient Clinic. Indeed, the superior descriptive powers of a private patient gifted with a lively imagination may so disguise the essential facts of a history that they become more or less unrecognisable.

Let us follow Dr. Pye-Smith a little further. " Again and again," he says, " without intention or wish to deceive, the history you get from hospital patients is so confused, so inaccurate, so involved, lapses of memory are so frequent, and they so mix up what they know with what their friends have told them and what the doctor has told them and what they suppose, that it needs the skill of an Old Bailey lawyer to get at the facts of the case. On the whole you will economise time by examining the patient first and listening to his narrative afterwards." These are not the idle words of a thoughtless junior, but the expression of the mature judgment of the then Senior Physician. After 27 years on the staff of the hospital Pye-Smith, at the age of 58, is encouraging students to regard the history as " comparatively unimportant," and to examine their patients before listening to their " narrative."

I should probably incur the censure of present teachers in the Medical School if I were to urge the students of 1933 to accept too literally the advice given by so distinguished a teacher in 1898. I have, however, neither the inclination nor the intention so to do. But I do ask both teacher and student to pause for a moment and ask themselves whether our tradition in history-taking may not be leading us astray. There is surely much truth and much sound sense in Pye-Smith's words. Is there a House Physician or a Ward Clerk, past or present, who has not suffered the humiliation of hearing a patient recount to the Physician a history differing, both in fact and fancy, from that which he laboriously extracted perhaps only a few hours earlier? After all, is it reasonable that we should expect our patients, untrained in the difficult arts of observation and description, to give us accurate accounts of such complex things as the subjective signs of disease? The simpler the demands we make upon our patients' powers of perception, analysis and verbal expression the better shall we be served. Consider for a moment the difficulties of describing a visceral pain or sensation. Try yourself to portray in words the familiar pain of intestinal colic that follows the taking of a purge, or the equally familiar sensation of fullness in the urinary bladder. We cannot describe these feelings, any more than we can describe concrete objects, without making use of comparisons. All description involves comparison, and with what can we compare these illusory sensations? Patients will tell us that a pain is " like a toothache," because that is the only pain with which they are familiar. Women, with their richer experience, may compare their pains with the pains of labour or of menstruation. But the healthy man or woman may reach mature age with no direct experience of pain or symptoms of any sort, and when these come they defy every effort at exact analysis and description. The sense of degree or value differs in every individual. To a woman who has experienced the pangs of childbirth a pain may seem a trivial thing which, to a man who has enjoyed the blessing of perfect health, will appear terrible indeed. Can we

wonder that our carefully-taken histories often lead us astray?

I think that the path of wisdom lies in the direction of compromise. Pye-Smith's advice to examine first and listen afterwards must not be blindly adopted or universally applied. But let us never forget that a history has a personal value for the individual patient; that it is as likely to lead us astray as to guide us to the truth; and that it should never be an excuse for neglecting the objective method of direct observation. More and more of recent years it has been my practice to confine my conversation with a patient before examination only to a few simple questions. There is, I think, much to be said for examining a patient with a mind unbiased and free from preconceived ideas. It is sufficient to know the main trend of the patient's complaint; the details can be filled in later. An observed sign is always more convincing if it is found before the observer has sufficient data to form a definite theory. For example, the discovery of a tender point in the region of the gall bladder will carry more weight if the mind has not previously been guided in that direction by a recital of a history suggestive of gall-bladder disease. It is true that very often a correct diagnosis, confirmed by subsequent examination, may be made by close attention to the history alone. But there must always be a danger that a history will suggest signs, and if we search for signs that we expect to find we are apt to discover them more frequently than they exist. I have known physical signs at the apex of a lung created in the mind of the examiner solely by a history of hæmoptysis. We are all warned of the suggestibility of the minds of our patients. Are we so sure that our own minds are free from this defect?

I am increasingly persuaded that one great difficulty in the interpretation of patients' histories lies in the variable meaning of words. We are accustomed in our work to use many words, not strictly speaking technical words, to which we attach a definite and limited meaning. Our patients also use these words, but often in a sense entirely different from our own. I could give many examples, but a few will illustrate my point. I would, however, suggest that those of you who are working in the Out-Patient departments would find it instructive to question a few patients as to the exact meaning which they attach to words which they use in describing their symptoms. I myself have only recently discovered that there is all the difference in the world between "vomiting" and "being sick." A third alternative is "bringing up food." Now these are things which I had always regarded as synomymous. But it appears that many patients of the hospital class do not so regard them. "Vomiting" is often used to mean what we should call "water-brash"—the regurgitation of gastric juice or accumulated œsophageal secretions "To be sick" is usually synonymous with "bringing up food," but not always; the distinction between them is less clear to my mind than to the minds of many of my patients. My attention was first directed to this variation in the meaning of words by a patient with a dyspeptic history who was referred to me by a doctor for "persistent vomiting." Misled by the history I was endeavouring to distinguish the signs of pyloric obstruction. Further questioning, however, elicited the confession that he had never in his life "been sick" or "brought up his food." Nevertheless, he insisted that he vomited five or six times a day, usually after meals!

Nausea is another term that we are fond of using and which is sometimes used by patients. I think that most medical men would find it difficult to describe exactly what they mean by this word. Personally, I define it as a sense of impending vomiting. Patients, however, use it in all sorts of senses, and I have learnt never to accept it without some sort of definition. It might be thought that the word "indigestion," admittedly rather a vague term, at least indicated some abnormality of the digestive functions. In the course of a thousand and more life assurance examinations I have had to ask whether there has been any history of indigestion. Affirmative replies have been remarkably frequent, but only in the most exceptional cases has the indigestion been attended with any pain. I am happily not a sufferer from indigestion, but I had always believed it to be a painful complaint. This is not, apparently, the case. Very many of my life assurance cases have used it to mean that, from time to time, their food has "repeated." The fault in this case is not in themselves, but in their food; they are using an expression with a pathological import to express a physiological accident. Giddiness is another obvious example of a word with a variety of interpretations. We are apt to regard it as identical with vertigo, but I think that if you took a hundred patients complaining of giddiness you would find few who really suffered from vertigo. It may mean faintness, palpitation, or some variety of nausea, but rarely true vertigo.

The realisation that a patient's history may be both misleading and inaccurate must not cause us to put all the blame upon the patient. The

less educated he is the less reliance can be placed upon the words he uses. It is not only in the use of words with abstract meanings that confusion may arise. Words indicative of anatomical localisation are not infrequently used by patients, but it is never safe to accept them unless (as is often the case) they are accompanied by a descriptive gesture. Even a doctor will often assume that a patient's pain is in the epigastrium because he is told that it is in the "stomach." But most patients mean "belly" when they say "stomach." Others, more precise, locate their pain in the "pit of the stomach." I have never asked Professor Johnston where the pit of the stomach is situated; I doubt if he knows, and it is certainly not mentioned in Gray or Cunningham. I have, however, questioned many patients on this subject, and have failed to find any unanimity. It is sometimes the epigastrium, sometimes the hypogastrium and, occasionally but more rarely, the umbilical region. It is clearly most important that we should never record in a patient's history any expression or word of which the meaning is not perfectly clear both to him and to ourselves.

It is, I suppose, still commonly taught that a history should be obtained without the use of what are called leading questions. This has always seemed to me to be a rule with numerous limitations. It would, perhaps, be better to say that leading questions should be confined to the concluding phases of the interrogation. I do not think that any history would be complete unless a number of leading questions were asked. A patient may forget to mention an important symptom unless reminded of it by a specific question. I have had patients complaining of abdominal symptoms secondary to pulmonary disease who would never have mentioned their cough unless they had been specially asked. It is a good plan to end your cross-examination of the patient with a number of questions definitely "leading" to the various systems of the body. Thus only will important omissions be avoided.

A good example of the importance of such questions occurred to me recently. A doctor referred to me a lady of 47 on account of a weakness of one leg, fearing that she had had a stroke. A few preliminary questions showed that this symptom had been coming on for some time, but nothing else was complained of. Examination revealed a normal blood pressure and a spastic paresis of the left leg, with increase of tendon reflexes and a positive Babinski's sign. I was assured that she had had no previous trouble of any sort, and a question in general terms about her eyesight evoked the reply that "her eyes were good." A definite leading question as to any temporary disturbance of vision in the past brought to her memory a transient loss of vision in one eye some ten years previously. I then pressed her closely for any history of loss of power in arms or legs at any time in the past, and she finally recalled that she had, at the age of 20, temporarily lost the use of her right arm. Recovery had been complete, and she had forgotten all about it. Nothing but a leading question could have dislodged the memory from her sub-conscious mind. But it completed a perfect history of disseminated sclerosis, and so led to a correct diagnosis.

The alleged danger of leading questions is that of suggesting a symptom to a patient which has no existence in fact. This is, I believe, a danger which has been greatly over-rated, although it undoubtedly exists. I believe it is much easier to suggest signs than symptoms to a susceptible patient. Anæsthesia, hyperæsthesia, tenderness, and even paralysis may be suggested if the examination is not carefully carried out. But it is only the extreme hypochondriac or the frank malingerer who will invent symptoms at the doctor's suggestion. Such cases can often be detected by the suggestion of some rather fantastic symptoms in the hope that they may be accepted along with those of more orthodox pattern. Examination is another matter. If you poke a patient under the ribs and say, "Does that hurt?" the reply will more often be "Yes" than "No." But if you press with your hand while the patient's attention is distracted you will notice by his expression whether tenderness is present or not. Leading questions in history-taking are permissible, and, indeed, essential; in examination they should only be used as a last resort and the responses accepted with the greatest caution.

It has not been my intention to persuade anyone, whether student or otherwise, to neglect taking careful histories nor even to postpone taking a history until after the patient has been examined. I have merely tried to show that histories may be misleading and that a slavish pursuit of a tradition which has placed history-taking on a pedestal which is hardly deserved, will not necessarily lead to accuracy in diagnosis. The problem of giving the history its true value must be solved by each one of us, and, perhaps, solved differently for each patient. But let us always remember that observation yields facts, while the patient's narrative may be more akin to fiction.

Visits to Scandinavian Clinics—II.

By N. L. Eckhoff, Esq., M.S., F.R.C.S.

STOCKHOLM

IT is not my duty here, nor have I the literary ability, to describe Stockholm as a city and do justice to it. I may, however, be permitted to quote a well-known writer, who describes how "the Almighty must have selected a selection of Scottish lake scenery, a portion of the sea-coast of Naples, a few islands of Hyères, some hill-tops from the Ural chain, and then, shaking them well together in a large cauldron, poured the mixture out on the banks of a bay of the Baltic, where they form the capital of the Kingdom of Sweden and bear the name of Stockholm." Nor is this an exaggeration, and it probably conveys to the mind of the reader the sort of place Stockholm was centuries ago. Superimposed upon such a site we find a collection of remarkably fine buildings: several palaces and museums, a magnificent opera house and theatre, fine churches, hotels and business houses—all these surrounding beautiful parks and being themselves surrounded by waterways. One has not to wonder why Stockholm is called "the Venice of the North."

Maria Sjukhus

This hospital is associated in the surgical world with the name of Professor Einar Key, a surgeon of great repute in Scandinavia and all Europe. The hospital itself is not very prepossessing, being originally built on the remains of an old factory, to which has later been added a baronial private dwelling. While many of the hospitals in Sweden have been erected by the State or town, Maria Sjukhus is an example of one that arose originally by private enterprise, though later taken over by the town. In spite of the fact that the general arrangement is not too convenient, the departments are all well organised. When Professor Key was offered professorial rank he accepted only on condition that he could continue to work in his old hospital.

I was particularly struck with the X-ray department (under Dr. Åkerlund) and with the theatre suite. Here, in addition to the usual accommodation, there are two additional theatres, each fitted with X-rays from a common plant, the one for cystoscopies and pyelographies, the other for fracture manipulations or operations.

The work of the hospital commences at 8.45 a.m., when all the doctors gather in the X-ray department for a demonstration of the X-rays, medical and surgical, that have been taken the day before. This forms a good meeting ground for the physicians and surgeons at the beginning of the day. The demonstration is excellent, and Dr. Åkerlund has the salient clinical features of each case before him, so that his own work is made the more interesting.

At about 9.15 a.m. the ward round begins, and Prof. Key visits each patient in his beds (numbering about 140) every day. There is no more satisfactory (and rapid) method of discovering the general principles of treatment employed than to attend one or two of such rounds.

After the round operations begin. Professor Key is recognised as one of the greatest chest surgeons in Europe, and I had hoped to see him do several thoracoplasties. In this I was unfortunate, for it so happened that he had most of his beds full, and there did not happen to be an operation of this sort during the ten days I was in Stockholm. I saw many cases in the convalescent stage, and I gathered that his technique is similar to that of Prof. Holst, in Oslo, the main feature of which is the free removal of the first and second ribs.

But amongst other operations I was glad to see this great and modest surgeon doing a gastrectomy, and the ease with which this operation was carried out, with faultless technique on the part of the surgeon, his assistant and the theatre sister, bore witness to the reputation he so justifiably enjoys.

In general theatre technique one noticed the extreme thoroughness of the "scrubbing up," which is made a ritual in all the hospitals I visited in Scandinavia. The operators sit down for five to ten minutes, and manicure and scrub their hands and arms unceasingly, and later rinse them in running spirit. The instrument tables are covered with hoods, and the towels used in the theatre are blue. In this hospital, as in the bigger hospitals in Stockholm, the junior resident gives all the anæsthetics, not because the sisters are not capable of doing this, but because it is considered important for the embryo surgeon to have this experience. The gas and oxygen apparatus used is of enormous dimensions and of German design (Haertel).

Prof. Key and his assistant, Dr. Hindmarsh, were exceedingly kind to me during my stay, and introduced me to the other hospitals and to the medical and surgical societies.

Serafima Lazaret

This is another training school, and the surgical department is in the charge of Professor Soderlund. Dr. Olivecrona has a great reputation as a cranial surgeon, and Dr. Forssell as radium and X-ray specialist, but I was not able to visit these two. Professor Soderlund was very proud of his theatre block, which is very new, and has three main theatres, and smaller theatres with X-ray installed. All the furniture in the theatres and washing-up rooms is of rustless metal, and the operation tables are magnificent. They are capable of being tilted in their transverse and longitudinal axis to any angle, and they have an additional joint in the middle of their length, which allows of the production of a sitting position, or the reverse, according to requirements. Most of the controls are at the anæsthetist's end, and easily manipulated. Incidentally, they cost only £110. I was shown some theatre stools that had been in use for 40 years without repair, only brought up to date with a chromium finish.

The instrument sister wears no mask, though the other operators do so, and she holds out the gloves for the surgeon so that he is able to slide his hands in without touching the outside. I did not discover how the sister gets her own on. Features common to other clinics were: (1) the strapping of the patient's legs and arms to the operating table; (2) an erection resembling a hoop-la board for counting sponges; (3) an enormous gas-oxygen machine; (4) poor ventilation.

I witnessed operations for thyrotoxicosis, multiple thyroid adenomata, single thyroid adenomata, and for gall-stones. The thyroid operations were all performed under local anæsthesia, without the slightest distress to the patient. For toxic goitre the greater part of each lateral lobe was removed, leaving a strip posteriorly; for the adenomata, enucleation was practised; the operation for gall-stones was performed by commencing at the fundus, and as there were stones in the common duct this was opened and drained, as also was the gall-bladder fossa. During one of the thyroid operations the patient suddenly became hoarse as a ligature was tightened, to the concern of all present, but I was glad to hear the next day that the hoarseness had disappeared.

Stockholm—The Palace

St. Goran's Sjukhus

Professor Troell made me welcome at this hospital. He is very keen on thyroid surgery, and is reputed to be very good at it. His theatre suite rivals that of Serafima Lazaret and the wards are finer. At this hospital there is a special orthopædic clinic (not found in the other hospitals) under Dr. Wahlenstrom.

In the theatres one noticed especially: (1) suction laid on to each theatre; (2) saline (hot and cold) laid on; (3) blue operation towels; (4) an inflatable air cushion to go under the neck in thyroid operations; (5) electric heaters for hand lotion basins; (6) an amazingly efficient theatre sister. The importance of some of these things was revealed in an emergency operation for a 12-hour perforated gastric ulcer in a 62-year-old man. The patient collapsed after spinal percain (1/1500), and the calmness and speed with which he received a saline infusion was very impressive, and enabled the operation to be completed successfully. It was said to be the first collapse they had experienced under spinal percain.

Professor Troell's technique for thyroid operations is excellent, and I was fortunate in seeing many examples of his work. He uses local anæsthesia, and removes the same part of the gland in thyrotoxicosis as do the other Scandinavians. After freeing the lateral lobe of one side in the usual manner he divides the isthmus, and transfixes the posterior part of the lateral lobe with a threaded needle. The ligature is cut, and one half tied above and the other below. Thus the bleeding from the gland is controlled before the section is made. The other lobe is dealt with in a like manner. Professor Troell showed me beautiful colour photographs of his most interesting thyroid cases, and coloured microphotographs of interesting sections. This hospital has 841 beds.

Ersta Sjukhus

This is a small private hospital run by an order of nuns, the patients paying from 4 Kr. to 16 Kr. a day, which is about 30 per cent. more than is paid in the State or town hospitals. Dr. Silberstolpe is the surgeon in charge, and I went there to study his thyroid technique. He is one of the few surgeons in Scandinavia who uses general anæsthesia for this work, and his operation follows the lines of Dr. Troell. The hospital has a magnificent situation on the fjord leading to Stockholm, and was well worth seeing for this reason alone, and as an example of a small hospital.

Kronprinsessan Lovisas Vardanstalt for Sjuka Barn (Children's Hospital)

A meeting of the Swedish Surgical Society was held here, and the hospital was open for inspection. A fine new theatre suite has recently been installed. In the wards the cots are separated by transparent glass screens, reaching from floor to ceiling.

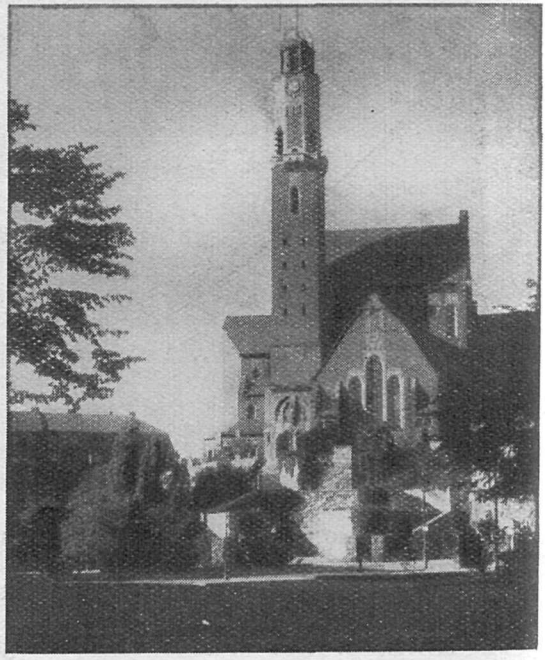
Dr. Perman and Dr. Miller opened discussions of the following subjects :—

1. Swallowed foreign bodies in children.
2. Avertin narcosis in children.
3. Hydronephrosis in children, with a demonstration of X-ray films after subcutaneous perabrodil, 20 c.c. 7.5 per cent. solution.
4. Thoracoplasty.
5. Apicolysis, also with a demonstration of X-ray films.

This was a very profitable evening, and was followed by a supper at a nearby restaurant. The attendance at both functions was good.

Sabatsberg Sjukhus

At this hospital there are many known surgeons, including Drs. Hubinette, Giertz and Craaford, the last-named having two successful pulmonary embolectomies to his credit. I spent two days with Dr. Hubinette. The general theatre organisation was as good as in the many other clinics. Dr. Hubinette wears a cap but no mask, though the sister and his assistants do so. It is odd how much variation there is in this one habit, for there can be no doubt that it is wise to cover both mouth and nose.



Stockholm—A Modern Church

I saw three useful little things in use in this theatre: firstly, a sterilisable shield that slips over the handle of Pacquelin's cautery, dispensing with

the cumbersome method of trying to wrap the handle in a sterile towel; secondly, sterilisable bone disc-shaped labels for insertion into colourless solutions (novocain, hydrogen, peroxide, etc.) for their identification after decanting; and, thirdly, small nails (Rissler's) for fractures of cancellous bone, to take the place of more cumbersome screws.

Dr. Hubinette showed me records of his many operations for recurrent dislocation of the shoulder. He uses a small bone graft, which he inserts into the antero-inferior part of the glenoid rim. He also showed me many cases of arthroplasty, in which he had obtained good results. In addition to thyroid operations, I was glad to see his operation for mammary hypertrophy, in which he removes a large section from the lower part of the breast, after transplanting the nipple to a higher level. He is an expert at this operation, and apparently collects quite a few cases each year.

Radiumhemmet

This hospital is supported by private contributions, and is housed in two old buildings, originally built for other purposes. The second was acquired during the war, being the premises of a trade school. The school now has a fine new building, but the Radium Hospital struggles on in the old buildings, which are on opposite sides of the street! In spite of this handicap the work of Radiumhemmet is world-renowned. Dr. Berven is in charge of general cases, and Dr. Heyman of gynæcological cases. In addition, there is a Physicist and a Pathologist constantly working for the advancement of knowledge.

Upon arrival each visiting doctor is handed a copy of the most recent writings from the pens of the chief workers in the hospital and a copy of the time-table of clinics and demonstrations that may be attended These are printed in German and English, and, in fact, all the work is carried out in these languages when there are visiting doctors On the days that I attended German was the language of choice, but this did not prevent me from absorbing a great deal of useful information.

Radium needles are used but little, their use being almost entirely restricted to the treatment of skin carcinomata. On the other hand, radium bombs are used extensively, and there is a continuous stream of patients during the 24 hours, so that there shall be no waste of this valuable emanation; 100-gm. hours seemed to be an average dose, and I saw excellent results in the case of neoplasms of the mouth, nose and pharynx. Deep X-rays are also used a great deal. While I have not had the opportunity to dissect the figures of results presented by this hospital, it seems clear to me that the good results that can be claimed are largely due to the close co-operation of the surgeons with the physicist and the pathologist, and the availability of needles, bomb and deep X-rays, working together for the common good. Dictaphones are used for the dictation of notes in the Out-Patient department.

In this sketchy survey of some of the hospitals of Stockholm I trust that I have conveyed the impression that the general standard of work is extremely high. Every day there is something to learn at the hands of one of the great masters, who are all very glad to receive visitors. The organisation of the hospitals, individually and collectively, is of a high order.

COPENHAGEN

In Copenhagen there are three chief hospitals: Rigshospitalet, Commune Hospitalet and Bispebjerg Hospitalet. I was only able to visit the two first, and, although each has two Professors of Surgery, I was unfortunate in that I did not see any of the heads of departments at work. I was, however, able to meet two of them, and to see their first assistants operating.

In Professor Nansen's clinic at Commune Hospitalet I saw many operations, including a perineal resection of the rectum for carcinoma, under a spinal anæsthetic, in a young woman of 28. After amputation of the rectum, the stump was brought down through the perineal wound to form an artificial anus, a procedure which Prof. Nansen has used frequently, with good results. No preliminary colostomy had been performed in this case.

In the other clinics the operations that I saw were disappointing. At Rikshospitalet the surgeon has no sleeves and wears no mask. The floor of the operating theatre is kept continually wet, apparently by design, for the nurses, when changing lotions in the hand-basins, simply tip out the contents in the middle of the theatre. The picture created, with operators, students and nurses standing on duck-boards, or wading about in goloshes, is not a pleasing one.

My general impression of Copenhagen—a most charming town—was that the surgeons have some way to go before they can rival the excellence of their Swedish and Norwegian brethren.

In these notes I have only attempted to make observations on striking differences of practice, without drawing conclusions as to their merit. If I have succeeded in stimulating thought, I am happy. Happier still shall I be to give further information to any, having read these pages, who feel encouraged to visit these countries.

Vale

An Appreciation of the late Mr. F. E. Ash

WE have to record with great sorrow the passing of another of our old friends—Mr. Fred. Ash, the Chairman of Messrs. Ash & Co., Ltd., Printers.

For nearly 50 years he paid a daily visit to the Hospital to see personally what he could do for anybody; his kindness and courtesy (it might be termed "courtliness") are proverbial, and he was one of those to whom one instinctively turns for help. About 3 o'clock in the afternoon he might always be seen making his way to every department, and even when, with increasing age, he had to give up much of his work, he came to the Hospital, whenever he was able, and was always welcome.

He and his Firm have done much for the Hospital. For many years past they have supplied it with Christmas Cards, printed with photographs of the Hospital, or its crest, for sale for the benefit of the Hospital, and these have realised large sums, and they have also contributed liberally to the Hospital funds. If any function or ceremony was to be held, Mr. Ash put all his attention and knowledge at the service of those who were responsible for it, carrying out suggestions and making programmes and appeals as attractive and suitable as possible.

There was another side of his life which did not appear in the Hospital; he was a profoundly religious man, giving up his rest on Sundays to preaching and teaching, and walking long distances to do so. In the words of one who knew him, his religion was his "hobby."

E.

The Physical Society

A JOINT meeting of the Physical Society and the Medical and Physical Society of St. Thomas's Hospital was held at Guy's on the 9th November, Mr. Robin being in the Chair. There were about 30 members of each hospital present.

Mr. WONG described a case of a woman complaining of headache, and having two small bosses of bone on the left side of the skull. X-rays showed localised rarefaction of bone at these points, the blood Wassermann was positive, the cerebro-spinal fluid reaction negative. There were slight mental changes and the history of one very recent epileptic attack, but otherwise neurological signs and symptoms were strikingly absent. The Secretary, Dr. E. T. Conybeare, was of the opinion that on the X-ray appearances he at once thought first of neoplasm of the cortex and, secondly, of syphilis of the skull. Dr. Stevenson was equally convinced that the order of likelihood was the reverse, and said this was upheld by the lack of signs of active cortical disease. Dr. Conybeare talked about "silent areas." Other diagnoses were discussed only to be dismissed. Mr. Wong sportingly upheld that the blood cells in the lumbar-puncture fluid owed their origin to "human hand alone." The result of general opinion was that the diagnosis must rest upon the result of the therapeutic test of a reaction to "antispecific" treatment; this appeared to have been Dr. Symonds's ultimate view, too.

Mr. DRUMMOND showed a man with a lumbar kyphosis of eight years' standing, and interesting X-ray changes. The company were informed that Mr. Trethowan was awaiting the diagnosis reached that evening before proceeding with treatment. Mr. Drummond himself seemed to favour localised fibrocystic disease of the spine, although admitting that it was a very rare condition in that situation. Honest members admitted to a certain amount of ignorance of such diseases, although St. Thomas's men made several bright suggestions, only to rule them out again. Their President considered eight years too long for tuberculosis. Another gentleman stated that it could not be either the localised or generalised fibrocystic disease, and favoured a benign giant-cell tumour, thereby rousing the pathologists present to enter into discussion. Mr. Davies was anxious for a biopsy to be made, and his opinion was supported by several others, who considered this investigation justifiable. Dr. Conybeare was much more interested in the treatment Mr. Trethowan may have thought of, but Mr. Drummond would not oblige by divulging such secrets. The case was left very much *in statu quo*.

Mr. M. J. McARDLE, in his inimitable manner, brilliantly described a case of pigmentation in a woman of 49, with very few symptoms and a relatively normal blood pressure. A history of six months' amenorrhœa was seized upon by two "comrades" from St. Thomas's as a basis for emphatic assertions that the case was either a pure menopausal upset or a generalised endocrinal dysfunction. Mr. McArdle would not tolerate such suggestions, nor that of the Chairman, who dared to suggest that a few innocent moles on the face might suggest Von Rechlinhausen's disease. Mr. McArdle himself did most of the discussing of this case; he had obviously culled the literature extensively. He swept away any possibilities of hereditary taints, of toxic poisoning with heavy metals, and other pigmentary disturbances. He gave a beautiful picture of the condition of the skin in secondary carcinoma from the stomach which was new to most of the company, and ultimately gave various reasons why the case was an atypical example of early Addison's disease. He was supported in this contention by Dr. Conybeare, who believed the patient was due to be smitten with symptoms in the near future. From St. Thomas's came the telling story of a similar case of pigmentation who took three years to die, and for which disaster no cause whatever could be discovered. Dr. Conybeare failed to convince some that the pigment was not melanin, but agreed that a biopsy would be interesting, although useless; he also explained the word "dope" with which Mr. McArdle has harassed the company and Dr. Stevenson in particular. The case was left to Mr. McArdle and the future.

Mr. FAGGE showed a girl who had complained of abdominal pain and had a pyrexia and an interesting thoracic opacity. It appeared that the patient was not responding to the treatment meted out; there was a heated argument as to whether things were not worse than they might have been. Mr. Fagge upheld that the case was one of so-called epi-tuberculosis, though he was not sure what that meant. The Chairman was moved to remark that the child's condition seemed too ill for that disease, and Dr. Conybeare supported this with arguments that showed a belief in "masterly inactivity." Dr. Stevenson tended to agree with the diagnosis, and treated the company to an excellent outline of the ætiology of the disease. Mr. Fagge believed that the abdominal pain in this case was due to tabes mesentericus, but St. Thomas's repeatedly contended that it was "referred"—from where and how the particular speaker was unwilling to divulge. Dr. Stevenson suggested that the Chairman would like to tell of a similar case, who though not feeling ill at all, was subjected to bronchoscopy, but this news was not forthcoming. It may here be mentioned that the bronchial secretion sucked off this latter child killed a guinea-pig within six weeks. The general opinion seemed to be that the case was suffering from a more severe condition than that originally suggested.

Mr. DOHERTY described the case of a small girl admitted for pyrexia, seemingly due to pyelitis, who was found to have large tumours in each renal angle. Polycystic kidneys had been diagnosed until the blood chemistry was found to be normal, and later the spleen, liver and cervical glands became palpable. The blood picture changed, too, for although having a normal leucocyte count, there was a marked increase in lymphocytes. He said diagnosis rested between lymphatic leukæmia and lymphosarcoma. Most people agreed, though several were surprised that the kidneys should be so large and yet still efficient. Although not actually quoted, the company tended to agree with the comment: "They all die, so what the h——!"

Mr. FAGGE showed an anæmic boy of nine years with large glands in the neck and a normal blood picture. There were two interesting features about the case: the youthfulness of the patient and the typical appearance of Hodgkin's portrayed, and confirmed by biopsy, of a gland.

Mr. J. M. McARTHUR briefly described a woman with acromegaly, having typical features, and symptoms of headache and failing vision. There was glycosuria, but a low sugar-tolerance curve. X-ray showed a large *selle turcice*. He suggested that the headaches she had suffered from 15 years previously were due to the growth of an adenoma. He added that the visual fields were not deformed as in typical cases of pituitary tumour. A St. Thomas's speaker though he had detected a "beaten-copper" appearance of the skull on X-ray, and traced the headaches to a general increase in pressure. Dr. Conybeare believed the headaches might be hyper-tensive in type and due to some upset in the vasomotor centre.

After the St. Thomas's President had expressed his appreciation of the evening in an excellent speech, the meeting was closed.

THE second debate of the season was held on November 14th, with Mr. T. J. Evans in the Chair. The motion, " That Human actions are controlled only by a system of conditioned reflexes," was proposed by Mr. M. A. PARTRIDGE. He despaired, so he said, of his proposal being carried, not only because the meeting had had nothing more stimulating than tea, but also on account of their previous conditioning to believe in the superiority of man. After disparaging in hyperbolic terminology the architectural distinction of the " Spit," he proceeded to define a conditioned reflex. Producing a Pavlovian crocodile, he painted a poignant picture of the animal eating hot-cross buns to the tinkling of bells. We were then asked to consider whether a paralysed and completely anæsthetic man could think. He ascribed the ability of such minds as that of William Blake to see cloud-capped towers and gorgeous palaces while others saw only the fish-shops in the Euston Road as being due to a greater wealth of response as the result of previous conditioning. In concluding, he observed that a losing vote would only the more convince him of the importance of conditioning in the actions of man.

Mr. WILKIE then rose to oppose. He regretted that he had been of the opinion that the motion read, " That the movement of the earth round the sun is controlled only by a system of conditioned reflexes," and that he had therefore prepared a speech on free will and the dignity of human nature. He asked the proposer whether an angel might take part in the conditioning, since otherwise he was unable to explain his refusal of a glass of wine. He then accused Mr. Partridge of the greatest biological heresy—of being Lamarckian—and asked the proposer to explain the inscription of the heart-beat on his theory. Again denying the intention of making a speech, he gave place to the seconder of the proposition, Mr. C. Tilly.

Mr. TILLY observed that Mr. Wilkie, although amusing in the extreme, had put forward no reasonable alternative to the proposition, which, in this case, must stand. He asked what was Life, and defined it as Movement—that is, the reaction to a stimulus. He explained Mr. Wilkie's peculiar reaction to his glass of wine, not to the intervention of an angel, but to the aggregate of past experience in having " one over the eight "—corrected by the proposer to " sixteen."

Mr. CARDEW seconded the opposition. He asked us to consider what were the possible factors governing action. He said they were first, inherent nature ; secondly, alterations in the " nature " as the result of conditioning ; thirdly, the effect of drugs, and fourthly, thought. To explain the inherent " nature " of the organism he cited the remarkable virtuoso Yehudi Menuhin (who was mentioned by all subsequent speakers, who felt themselves competent in pronunciation). He then agreed that this primary nature might be altered by subsequent conditioning, but went on to suggest that the reflex course was not always that taken by the human being.

The CHAIRMAN, in opening the discussion, observed the importance of Mr. Cardew's contribution with regard to the hereditary content of the organism.

Mr. Guildford suggested that the physiologists were showing extraordinary temerity in their reasoning, while the physicist realises that his theories all revolve round clocks and scales, on which the definition of matter rests, and which, we were assured, have no absolute meaning at all.

It was then observed that the action of drugs in altering the relative strengths of different reflexes in no wise invalidated the argument. Another speaker observed that if the proposition were true, then we must believe in an anatomical basis for thought, and that such a belief was difficult to reconcile with certain problems in behaviour

such as the reactions of hypnotised subjects, the phenomenon of dual personality and the principle of choice.

After much argument, many red herrings and frequent deploring of different strata of society from angels to physicists, the Chairman called upon Mr. Wilkie to sum up for the opposition. This he did by giving an excellent, if delayed, speech on the subject of "Free-will and the dignity of man," which latter attribute he compared to the tail of a properly constructed cat. He pointed out the fallacy of attempting to prove everything the same way, and assured us that, although he could not prove that he existed, he knew that he did. He went on to explain that, although certain primary certainties such as the distinction between the "Me" and the "Not me" by which he knew of the external world and understood the existence of free-will in that actions within the former were within his control, whereas those in the latter were beyond it, could not be mathematically proved, yet they were true, because it is human experience that they are. This, he said, was a positive experience which, he believed the human race had, and therefore, in voting for the proposition, the meeting would only deny a very real thing in human life.

Mr. PARTRIDGE, in reply, reiterated that the proposition had positive value, and that, since no provable alternative had been put forward by his opposers, it was reasonable to believe that the conditioned reflex was the essential in human activity. He pointed out that glandular activity only regulates the relative force of different reflexes, and therefore was in no sense an invalidating argument. Were he defeated he would only be doubly sure of the all-powerful control of conditioning in the minds of men.

A division was then taken and the motion was declared lost.

Sale of Work

THERE has been an unusual amount of activity in the Light and X-Ray Departments during the last few weeks, and it was even noticed that Sister Looker and her Assistants were sewing hard during the intervals at the Swimming Gala that was recently held in the Nurses' Home.

On inquiry it has been ascertained that a sale of work is being held in the Sunlight Department on Saturday, December 2nd, at 3 o'clock, to obtain funds to acquire some new and very necessary apparatus. All wishing to secure unique and novel Christmas presents at very little cost should remember this date, as many beautiful articles will be "for sale." We hear also that a good tea will be obtainable.

R. M. S.

Correspondence

An Appeal

To the Editor of the GAZETTE

SIR,—I feel that the following case, which has recently been brought to my notice, may make an appeal, especially to old Guy's men who went through the war.

X. Y. was a dental student at Guy's who received a severe head wound, a piece of metal lodging and remaining in the brain. Despite this handicap, he subsequently qualified, started in dental practice and did well for a time. Severe attacks of headache led to recourse to alcohol, which enabled him to keep going, but, later, the treatment proved worse than the disease. His practice fell away from him, and his wife was eventually compelled to seek a separation. She has five children, of whom the eldest, by outside assistance, is now studying dentistry. Friends are helping in the education of the other children, but the tiny capital which she had has now so dwindled that she has only a few pounds remaining.

I know that these circumstances are unusual and that the claim on old Guy's men is not a direct one, but the case is a real tragedy and the need for help is urgent. I shall be glad to give further information to anyone who desires it, and to acknowledge and forward to the proper quarter any sums that may be sent to me as a result of this letter.

Yours, etc.,

T. B. JOHNSTON,
Dean.

Medical School,
Guy's Hospital,
S.E.1.

The Night Buzzer

To the Editor of the GAZETTE

SIR,—It is now over a year since we were blessed with the new Hospital telephone, on which it is no longer necessary to find out the daily error of each instrument before making a call. There cannot be many who do not remember doing this on its predecessor, which was one of the first of its kind, and which, I am told, now rests in the South Kensington Museum.

Shortly after the new telephone, an ingenious buzzer was set up for the H.P. and H.S. of the week.

These two instruments have done much to ease the life of the Residents and the Staff, but the peace of the patients at night is hardly less disturbed than it was. The telephone bell rings with a piercing clamour, which it must be difficult to sleep through, and more than once I have heard the buzzer at night.

Surely this is unnecessary? I would suggest that it ought not to be difficult to arrange for both to be quietened down at night. A reduction in the voltage of electricity used would probably be all that would be required, but there are others more able than I to decide the best means to the end.

Yours, etc.,

"INSOMNIA."

Guy's Hospital,
S.E.1.

Special Appeal by Sir Thomas Barlow

To the Editor of the GAZETTE

SIR,—For many years I have appealed through the columns of the Medical Press for the Christmas Gift Fund of the Royal Medical Benevolent Fund.

Last year my appeal was very materially assisted by the kindness of sympathisers in reading it at various medical meetings and in making a collection.

It is natural, as the existence and the usefulness of this Benevolent Fund becomes more widely known, that the number of our beneficiaries should steadily increase each year.

During 1932 the Fund was assisting over 650 beneficiaries, and it has been our custom to give a Christmas Gift to all the Annuitants and to the poorest of our Grantees.

I feel it is a great responsibility that none shall be disappointed this year.

I ask you, Sir, for your support, and if you approve, that my appeal may be brought to the notice of your readers. I am confident that it will be the wish of many that our beneficiaries, who are either infirm or invalid doctors, widows or daughters of deceased medical men, whose total incomes are not even £100 a year, may be given again this Christmas a gift of 30*s.* each.

Such a gift is not a luxury when the recipients are pressed for the necessities of life. It can but give some warmth or clothing to many who dread the winter months.

Donations, or collections made, may be sent to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, W.1. Every contribution will be distributed without deduction of expenses.

Yours, etc.,

THOMAS BARLOW,
President.

11, Chandos Street,
Cavendish Square,
W.1.

New Portable X-Ray Apparatus

To the Editor of the GAZETTE

SIR,—You will be interested to learn that not only have the Governors given consent for a new portable X-ray apparatus to be purchased, but they have also sanctioned the introduction of alternating current into the wards and theatres to energise the apparatus.

The cables are being placed in position, and quite soon, I hope, the new apparatus will be functioning.

Yours, etc.,

H. M. WORTH.

101, Harley Street,
W.1.

Mr. Williamson's Testimonial

To the Editor of the GAZETTE

SIR,—May I crave a little of your valuable space? I desire to express my sincere thanks for the handsome testimonial presented me on retirement. And I am deeply grateful for the kind messages received.

In the oncoming years there will be many very pleasant recollections of Guy's.

Yours, etc.,

E. WILLIAMSON.

29, Merton Hall Gardens,
West Wimbledon,
S.W.20.

Students' Footwear and Ward-Walking

To the Editor of the GAZETTE

SIR,—May I put in contrast two small extracts from your last number?

(*a*) "The students all wear rubber-soled shoes during their attendance at the clinics" (From Mr. Eckhoff's excellent little article on his visits to Scandinavia.

(*b*) ". . . and the student —'bless' him!— still turns night into day as he strides up the ward in heavy boots." (From "Life in a Ward at Guy's Hospital," by A. M. B.)

I believe the nurses, as a part of their training, are taught while in the School to wear rubber heels. But what about the students? Is it, or should it be, a regulation? In which case I suppose the Superintendent would act. Or is it a part of clinical medicine? I hope so, and the Dean might allot the subject—perhaps to Dr. Boland.

Sir Alfred Fripp taught the point to me on the day I became his assistant surgeon's dresser—but why wait six months?

Yours, etc.,

T. B. LAYTON.

Guy's Hospital,
S.E.1.

Sport

Rugby

Guy's v. Blackheath

THE long-standing fixture between two of the oldest rugby clubs in the Metropolis was revived when the teams met at the Rectory Field on Saturday, November 6th, and, after a most exciting duel, the home side were successful by a goal and 4 tries (17 points) to 2 goals (1 penalty) and a try (11 points).

Blackheath fielded a powerful side, which included the English captain, A. L. Novis, in the centre, but Aarvold was a notable absentee. On the other hand it was hard luck that the Hospital were robbed of the services of Giesen, their captain, who was confined to bed with tonsillitis; however, I. K. Thomas was able to take his place for the first time this season, and there was a large crowd to see Guy's assume the offensive. The Hospital were soon in Blackheath's 25, and were only prevented from scoring by some splendid tackling by their backs. Eventually Novis kicked the ball well up the field, and Kemp, who, followed up exceedingly fast, dribbled over the line and gave Blackheath the lead with an unconverted try.

After this, Guy's pressed continuously, but failed to penetrate a cast-iron defence, until Simpson was penalised and Hogbin levelled the scores with an excellent penalty goal. The Hospital continued to attack, and the threes tried hard to find an opening, but without success, and the interval arrived with the game all square.

Early in the second half Guy's took the lead as the result of a splendid try scored by Johnson. The movement which led to this success was started by Bowles, who sent out a good pass to Thomas, and the latter quickly passed to Alexander. The latter, running hard, broke through the defence and created a beautiful opening for Johnson, who swerved past Yuill for a try, which Hogbin failed to convert.

After this the Blackheath forwards played inspired football, and were able to get the ball out to their backs. In one of the movements that followed Novis drew Alexander and passed to Gee, who in turn passed to Gubb. The latter ran up to Clegg before giving Barton a clear run in for a try, but Novis failed to add the goal points.

Within a minute or two Blackheath took the lead when their forwards dribbled down the field and Bailey scored another unconverted try, after Wright had made a great effort to kick the ball dead. They increased their advantage when Novis handed off Steytler and passed to Bailey. The latter raced across the other side of the field, passed to Kemp, and sent in Harrison for a good try near the corner.

Soon afterwards Steytler was injured and had to be assisted from the field, but the Hospital never gave up trying, and their efforts were rewarded when Hale-Monro, who had gone on the wing, gave a reverse pass to Wright after Alexander had created the opening. Wright ran very hard for the line and succeeded in scoring a magnificent try near the posts, which Hogbin converted.

With only a point separating the two sides the excitement was intense, but after Guy's had made another bid for the lead, Rees broke through and sent Novis in for a try behind the posts, which Rees converted in the final minute of the game.

Team.—W. B. Clegg; A. G. Johnson, J. van A. Steytler, P. C. Alexander (Capt.), C. G. Wright; I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, D. M. Leeming, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Guy's v. Coventry

ON Saturday, November 11th, Guy's visited Coventry and, after a hard struggle, were defeated by a penalty goal and 2 tries (9 points) to a penalty goal (3 points).

With Steytler and Hale-Monro injured and Johnson unable to play, the Hospital took the opportunity of re-arranging their back division. They tried the experiment of playing Lindsey at full-back and Lynch on the left wing, whilst A. R. Clarke returned to the pack.

After a shaky start Lindsey improved considerably, and in the second half did some exceedingly good work, his tackling being of a very high standard, whilst his kicks to touch, although not very long, were well judged and accurate.

Lynch was again unfortunate; in the second half he received a nasty kick over the eye, and later had to leave the field suffering with concussion.

Before the interval Guy's were undoubtedly the superior side, and should have scored on several occasions, but faulty handling and the close marking of the centres prevented them from crossing their opponents' line. In the second half, Coventry played like a new team and, thanks to some excellent work by their forwards in which the brothers Wheatley and Walker stood out conspicuously, they pulled the game out of the fire and won on their merits.

From the start Guy's attacked repeatedly, but Giesen and Alexander were very closely marked by Harriman and Davies, and they were unable to make much headway. The home forwards were very slow in heeling the ball, and, as a result, the efforts of their backs were easily smothered.

In the early stages both Giesen and Lindsey were conspicuous in repelling attacks, and, on the other hand, Lole did very well in checking good dribbles by Clarke and Hogbin.

Harriman just missed a good attempt to drop a goal, and a great effort by Alexander, who ran splendidly for some 40 yards, appeared certain to meet with success, but a forward pass spoilt the movement.

Guy's were awarded three penalty kicks, but Hogbin could only convert the last, and by this margin they led at half-time.

Soon after the interval the Coventry forwards played with great vigour and dash, and eventually crossed the Hospital's line following some fine work in the loose by H. Wheatley and Walker, Davies picking up near the Hospital's line and scoring wide out. A few minutes later Gilbert gave Coventry the lead when he scored with a long-range penalty kick.

From now onwards it was a ding-dong struggle, and the Hospital three-quarters carried out several excellent movements which fizzled out through forward passes or bad backing up.

Near the end the home forwards again broke away and Kaye, receiving from H. Wheatley, dashed through the centre and scored another unconverted try.

Team.—M. J. Lindsey; C. G. Wright, P. C. Alexander, J. E. Giesen (Capt.), P. B. Lynch; I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, D. M. Leeming, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Guy's v. Cambridge University

AT Cambridge, on Wednesday, November 15th, the Hospital gave a very good display, but were narrowly defeated by a placed goal and a try (8 points) to a penalty goal and a try (6 points).

Heavy rain overnight had made the ground heavy, and the conditions were not ideal for good football. However, both sides handled the ball with commendable accuracy, and a very good game was seen, which was full of interest from beginning to end.

Cambridge suffered a severe setback after 20 minutes' play when they lost their captain, R. B. Jones, who had to retire with a damaged ankle. Up to this point their forwards had been playing particularly well, but in the loose the hospital held a distinct advantage and on several occasions made a lot of ground.

For the 'Varsity, C. W. Jones, their fly-half, played a magnificent game, and was easily the best back on the field. Time after time he had the Hospital defence guessing, and he had an admirable understanding with his partner, J. E. Bowcott.

The exchanges were very even, each side attacking in turn, but it was not until near the interval that a score was registered, and then Hogbin gave Guy's the lead with a penalty goal, taken from near the touch-line.

Early in the second half Fyfe scored a brilliant try for the 'Varsity running half the length of the field; he beat several opponents on the way, and finally scored in the corner. Encouraged by this success, Cambridge continued to press, and, after the forwards had broken away, C. W. Jones

kicked ahead and, in the subsequent race for the ball, W. G. S. Johnstone got there first and touched down for a try, which Fyfe converted with a splendid kick taken against the wind and near the touch-line.

Following this setback, Guy's rallied and, after a bout of short passing, A. R. Clarke raced over the line, but Hogbin just failed with the kick at goal.

During the closing minutes, the Hospital made desperate attempts to secure the lead, but the 'Varsity defence was solid and failed to give way.

Team.—W. B. Clegg; M. J. Lindsey, P. C. Alexander, C. G. Wright, A. G. Johnson; J. E. Giesen (Capt.), V. H. Bowles; M. R. Kark, A. G. Heberlein, I. G. Robin, D. M. Leeming, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Guy's v. Rosslyn Park

THERE was a riot of scoring at Honor Oak Park on Saturday, November 18th, when Guy's were successful by 5 goals (1 penalty) and a try (26 points) to a placed goal, 3 penalty goals and a try (17 points).

The form of the Hospital in this game was most encouraging and, considering the heavy going, their handling of a greasy ball was very nearly perfect. All the three-quarters took their passes at top speed, and in the space of ten minutes scored 13 points without response.

The forwards played magnificently, and, with Heberlein hooking exceedingly well, they saw that Bowles and Giesen had a good service. Giesen, the Hospital captain, was in his best form, kicking with accuracy and continually creating openings for his threes.

Guy's relied upon the side who were so narrowly beaten at Cambridge, and, after repelling an attack by the visitors, Bowles passed out to Giesen, who sent in Johnson for an unconverted try. Bowles found touch with a clever kick, and soon after Giesen was brought down within a few yards of the line. Then a brilliant movement started by Bowles and Giesen gave Wright an opportunity to show his skill. He received the ball near midfield and, running strongly, shook off several opponents and scored a splendid try behind the posts for Hogbin to add the goal points.

A minute later Guy's nearly scored again, when T. Morgan, following some good individual play, passed to Alexander at the right moment, but his pass to Giesen was smothered. Following two or three penalties for scrum infringements, Lindsey caught Sturtridge in possession, obtained the ball, raced through the centre and, timing his pass to perfection, sent in Giesen for a try, which Hogbin converted.

After the Hospital forwards had carried the ball over their opponents' line, Baird cleared and the Park's right wing raced away and punted ahead, but Clegg was in the right spot and found touch. However, the visitors persisted and, following a scrum underneath the goal posts, Guy's were penalised and Lidgate kicked an easy goal.

Woodhouse, the Park's scrum half, was injured, but after attention on the touch line soon resumed.

A fine round of passing by the Hospital threes looked dangerous until Unwin intercepted, and Guy's carried the ball over the line, before Bowles cleverly passed to Morgan, who found touch. At this point it was a desperate struggle, neither side sparing themselves an inch.

Five minutes after the interval Guy's increased their lead, when Hogbin kicked a penalty goal.

Twice Bradford found touch in the corner, and on each occasion Guy's were penalised following a five yards' scrum, and with the second kick Lusty landed a good goal.

Another brilliant movement initiated by Bowles and Giesen gave Alexander one of his favourite openings, and in a flash he was through; after exchanging passes with Lindsey he scored a great try, to which Hogbin added the goal points.

Guy's were in the midst of another bout of passing when Woodhouse intercepted and, racing to the Hospital 25, he was only prevented from scoring by a timely tackle by Giesen. The Park pressed strongly and, following a scrum near the line, Woodhouse stole round the blind side and scored, but Lusty missed an easy shot at goal.

The Hospital retaliated with another sharp attack, and the Hospital pack distinguished itself by pushing the visiting forwards over the line, and Bowles touched down for a try, which Hogbin converted.

Soon after Gladstone was hurt and took no further part in the game, but the loss of their wing three-quarter inspired Rosslyn Park to greater efforts and, with Clegg penalised for lying on the ball, Woodhouse scored another penalty.

Wright, Alexander and Lindsey followed with a fine round of passing, but Lindsey's kick across field was touched down. A little later Clarke, Morgan and Darke took part in a splendid dribble for some 30 yards, but in the last minute or two

Cooper scored a fine try near the posts, which Woodhouse converted.

Team.—W. B. Clegg; M. J. Lindsey, C. G. Wright, P. C. Alexander, A. G. Johnson; J. E. Giesen (Capt.), V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, R. J. Drummond, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Hockey

Guy's v. Woolwich Polytechnic

AT Eltham, on Saturday, November 4th, Guy's played a drawn game with Woolwich Polytechnic, the score being 1—1. The Hospital were unfortunate not to win as they had played better hockey than their opponents and were given plenty of chances of scoring from good passes by the halves.

The rather bumpy pitch inclined to make play dangerous, and W. A. Parsons, the Hospital's umpire, was rightly severe on "undercutting" the ball.

Guy's opened the scoring early in the first half through Jelly, who shot a good goal from centre-forward. After this the game was very even, but the Polytechnic equalised before half-time.

In the second half there was rather a lot of wild hitting, but no score, and the game was fought very keenly on both sides. Guy's nearly secured the goal they needed for victory, Hill having some bad luck in the circle and a shot from the right wing going just wide of the post.

Team.—E. A. Mayston; D. P. King, A. C. Greene; R. G. Archer, A. G. Richmond, A. E. Loden; J. S. W. Dryland, R. C. Hill, G. O. Jelly, E. B. Rowe, J. B. Franklin.

Guy's v. Woolwich Garrison

GUY'S obtained a well-earned victory over Woolwich Garrison on Wednesday, November 8th, at Woolwich, by 3 goals to 1. Throughout the match A. G. Richmond set his team a fine example by playing one of his best games. At centre-half he was always on the spot in attack, as well as defence, as shown by his scoring one of the Hospital's goals.

The Garrison started off at a tremendous pace and scored their only goal in the first minute of the game, but it was soon shown that they could not keep this up, and Guy's proved to be the better side.

It was unfortunate for the Garrison that their left-half turned up late, and they had to play one short for ten minutes in the first half.

Undoubtedly this was the Hospital's best game so far this season; the forwards, hitherto a source of weakness, gave and received their passes with more anticipation and managed to have first-time shots in the circle.

The first goal was scored shortly before half-time by Archer, the right wing, who up to now had been playing half-back. In the second half Guy's did most of the attacking, and goals were scored by Richmond and Jelly

The Hospital ought to have won by a greater margin, as they reached the opponents' circle on many more occasions than when goals were scored The eleven have every reason to congratulate themselves, but there is still room for improvement all round, and this is bound to come if all the individual members of the team will persevere.

Team.—E. A. Mayston; D. P. King, A. C. Greene; A. E. Loden, A. J. Richmond, R. C. Hill; J. B. Franklin, E. B. Rowe, J. O. Jelly, R. J. Archer, J. S. W. Dryland.

J. S. W. DRYLAND,
Hon. Sec.

Guy's v. Old Loughtonians

AT Motspur Park on Saturday, November 11th, Guy's entertained the Old Loughtonians, one of the stronger Old Boys' sides, who had to work hard to win by 6 goals to 1.

Rain over-night had made the ground extremely heavy, and both sides found it difficult to keep on their feet. Added to this, a failing light in the last ten minutes of the game made conditions rather trying.

The visitors followed the example of our previous opponents, Woolwich Garrison, by scoring a goal in the first few minutes, but, unlike the latter, this was not their only one. After this early setback Guy's got going hard, and attacked vigorously for some minutes. Both wings sent across some hard centres, but these were not always to the right place, and good anticipation on the part of the Old Loughtonians' backs made it difficult for the inside forwards to score. They worked hard, pressure was kept up, and it seemed

that any minute Guy's must score, but the opponents always seemed to have a man who just saved the situation for them.

Half-time came with the Old Loughtonians four goals up. They had reached our circle about half as many times as we had invaded theirs, the difference being that they were good goal-getters, whereas the Hospital forwards were rather inclined to lose their heads when nearing the enemy's goal.

In the second half Guy's kept on trying, and every member of the side contributed something to the goal which J. O. Jelly pushed into the net after a combined effort by all the forwards.

The Old Loughtonians were not content with this, and managed to penetrate the Hospital defence and score twice before the final whistle.

The Hospital halves played a great game, Loden, on the left, hardly making a mistake, while Richmond in the centre and Hill on the right did some very useful work.

At centre-half the Old Loughtonians had a stalwart in their captain, and he saved them from many awkward situations.

Team.—E. A. Mayston; A. C. Greene, C. A. Boucher; A. E. Loden, A. J. Richmond, R. C. Hill; J. B. Franklin, E. B. Rowe, J. O. Jelly, R. J. Archer, J. S. W. Dryland.

J. S. W. DRYLAND,
Hon Sec.

Guy's v. Aldershot Command

A HARD and well-fought game was seen at Aldershot on November 15th on the ground of the Aldershot Command, and we hope that the small group of spectators enjoyed it as much as the players did.

Aldershot Command, one of the finest sides in the country, were not at full strength. W. C. Cook, the Irish International, being the chief absentee. However, they managed to field a very strong side, including their centre-forward and M. H. Cock, the right inner, both of whom are Irish Internationals—the latter incidentally has been capped 23 times for Ireland and was captain last season.

In spite of these heavy odds against them Guy's played remarkably well, and managed to hold their opponents at 3—0 in the first half. This was chiefly due to the untiring energy of A. J. Richmond, who was the mainstay of a very dogged defence.

In the second half Guy's were forced to play a defensive game. The tremendous pace set by the Command began to tell and the Hospital, though obviously tired, carried on with grim determination.

The back division played splendidly, while the best-intentioned forwards managed to penetrate a solid defence on several occasions, and goals nearly came from Rowe, Franklin, and Trethowan; another from Richmond off a short corner had the misfortune to hit Rowe's foot, otherwise it would probably have scored.

The Command forwards were attacking persistently throughout the game, their three insides combining beautifully and being very fast. The fact that they only scored nine times is evidence that Brown, the goalie, and all who tackled back must have arrested twice as many forward rushes.

The result was 9—0 to the Command, but the fighting spirit shown by the Hospital was praiseworthy, and their form was definitely encouraging.

Team.—H. V. Brown; D. P. King, R. J. Archer; A. C. Greene, A. J. Richmond, A. E. Loden; J. S. W. Dryland, K. R. D. Porter, L. N. Trethowan, E. B. Rowe, J. B. Franklin.

J. S. W. DRYLAND,
Hon. Sec.

Guy's v. London Hospital

A VERY close game at Walthamstow on Saturday, November 18th, resulted in a well-deserved win for Guy's by 2 goals to 1.

Archer found his original form at centre half and played well throughout, while Richmond added thrust to the forward line at right inner. Guy's went hard from the start and the forwards kept up persistent attacks. Franklin succeeded in outwitting the half and had several good runs down the left wing, all but scoring early in the game. Rowe and Richmond also worried the London Hospital's defence, making great efforts to score so that it was gratifying when Jelly shot the first goal of the match for Guy's.

After this the London's forwards got going, and several anxious moments were relieved by good clearances by Hill and Boucher. However, before half-time the home side had equalised to 1—1 with their only goal of the match.

In the second half Guy's did most of the attacking, and deserved to score more than they did. The forwards always looked more dangerous than their opponents.

After several attempts Dryland eventually centred to the back of the circle, and Jelly scored again to give Guy's the lead, which they kept.

About ten minutes before the close of play Richmond had the misfortune to get a nasty crack across his fingers and had to retire, so that Guy's now played ten men. They played up well, and everyone determined to do more than their bit, with the result that Guy's nearly scored again in the last minutes, and finally won a hard struggle by two goals to one.

Team.—E. A. Mayston; D. P. King, C. A. Boucher; R. C. Hill, R. J. Archer, A. E. Loden; J. S. W. Dryland, A. J. Richmond, J. O. Jelly, E. B. Rowe, J. B. Franklin.

J. S. W. DRYLAND,
Hon. Sec.

Golf

2nd Round Inter-Hospital Cup
Guy's v. St. George's

THIS match was played at West Hill on Monday, October 30th. Guy's won easily by 9 matches to 3.

FOURSOMES

Guy's		*St. George's*	
H. C. A. Weighell D. A. Ibbetson (4 & 3)	1	G. G. Elphick A. Miller	0
C. B. Elsob W. C. Kendrick	0	F. S. Winton M. I. A. Hunter (1 up)	1
P. Hanbury A. L. Young (6 & 4)	1	J. W. D. Bull R. F. Jarret	0
B. J. Doran M. N. Evans (4 & 3)	1	R. D. Holloway D. H. Swayne	0
Total	3	Total	1

SINGLES

P. Hanbury (6 & 4)	1	G. G. Elphick	0
H. C. A. Weighell (2 & 1)	1	A. Miller	0
W. C. Kendrick	0	F. S. Winton (6 & 4)	1
B. J. Doran (2 & 1)	1	M. I. A. Hunter	0
C. B. Elstob (5 & 4)	1	R. F. Jarret	0
M. N. Evans (3 & 1)	1	D. H. Swayne	0
D. A. Ibbetson	0	J. W. D. Bull (4 & 3)	1
A. L. Young (7 & 6)	1	R. D. Holloway	0
Total	6	Total	2

Hospital Information, etc.

Papers by Guy's Men

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G. F. Gibberd. Concealed accidental hæmorrhage with spontaneous complete rupture of the uterus. *Clin. Jour.*, 1933, lxii, 468.

W. E. Tanner. The influence of medicine on surgery—Presidential Address to the Hunterian Society, October 16th, 1933. *Lancet*, 1933, ii, 955; also *Med. Press and Circ.*, 1933 (November 1st), 407.

E. J. Pye-Smith and Denton-Guest. Report on two cases of psittacosis; with a note on the Serological Investigation by S. P. Bedson (with charts). *Brit. Med. Journ.* 1933, ii, 914.

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Change of Address

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EDS. { C. G. B.
G. L. B. T.

GUY'S HOSPITAL GAZETTE

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PASSIM

THE Royal Automobile Club is appealing for a hundred motorists to lend their cars for a few hours once a year to convey patients from hospital to the convalescent home. One of the obstacles to this form of after-treatment is the transport difficulty, and here is a means by which it can be surmounted.

This service, properly organised, would be similar and as useful to the community as the Red Cross Transfusion Society. Motor cars, like donors, "on tap." It occurs to us that this transport problem may be helped still further if the railway companies co-operate with a scheme by which free passes are issued to ambulatory convalescents.

Less direct assistance is given by the societies which contribute linen and clothing. Many books find their way to hospital lending libraries. Various leagues hold dances and bridge drives to further our work. But none of these brings the layman face to face with the patient. The Royal Automobile Club scheme personally introduces helper to convalescent, and leaves them to converse for an hour or so. The motorist is doing a more concrete service than fishing for his cheque book.

This brings us back to the vexed question of the voluntary hospital system. Countless schemes for obtaining contributions have been tried, and it seems to us that most approaches to the public pocket have been trodden flat. Those who are prepared to give already do so freely, and we are left with the "untouchables," who have acquired their immunity from disinterest or ignorance. From the disinterested there is little hope, but a large section of the community does not realise the work done by a large hospital. By making them understand their responsibility we shall increase our resources.

We cannot throw open our wards and theatres for inspection, we cannot make public the more dramatic forms of treatment, but we can teach the benefits of medicine through the mouths of our patients. Everyone who goes to a convalescent home has presumably been severely ill, and when he feels the sunshine of returning health warming his bones he will be ready to pay tribute to the institution which has aided his recovery. Let the motorist drive one of these thankful people through the countryside and he will gain an inkling of the value of adequate medical care. If he employs a chauffeur, let him sit with the patient on the back seat and hear an account of hospital life. He will think a little, and being a motor-car owner and a man of substance, make further practical demonstration of his humanity.

IT will be with regret that readers will learn of the resignation of Miss M. Smith, Secretary to six successive Matrons of Guy's Hospital.

Miss Smith, who has been associated with the Hospital since 1897, is, perhaps, most widely known for her work in connection with the Nurses' League. This organisation owes much of its success to her unfailing personal interest in all matters appertaining to the League and its members. She has been a true friend to many generations of nurses, and, in many cases, has been a firm link with those whose work and interests have taken them away from England. Her retirement from Guy's does not mean that she has severed all connections with the League. Miss Smith still continues to be its much valued Secretary, and members may rest assured that

her friendly interest will follow them wherever they may be.

On her retirement from the Hospital, the past and present members of the nursing Staff and the Administrative Staff wished to express their gratitude to Miss Smith for her valued work in connection with the Hospital, and presented her with a substantial cheque.

THE Sale of Work held in the Light Department on Saturday, December 2nd, was a great success, and the sum of £100 that was aimed at was exceeded by nearly £50.

The quality and quantity of the exhibits shows that the Staff and past and present students of the Light Department, besides being able technicians in their professional capacity, can also use a paint-brush, needle and glue-pot to some effect. These artistic endeavours would not, however, have resulted in such a financial reward had not a good patronage also been forthcoming, and all concerned feel that great thanks are due, not only to those who worked for the cause, but also to all who bought the wares displayed.

Congratulations are due to Sister Looker, who worked with untiring energy for weeks beforehand and was responsible for its excellent organisation and success.

WHILE fully appreciating the value of the recently instituted appointment of Clerk in Clinical Pathology, we trust that the work of the clerks, whose accuracy may make all the difference in correct diagnosis and treatment, will be supervised, so that the results can still carry the authority of the expert.

SUBSCRIBERS to the *Gazette* will be interested to learn that the cost of binding has been reduced to 5*s.* per volume. Binding cases only may be obtained at the cost of 2*s.* 6*d.* each on application to the Wills Library or *Gazette* Office.

SISTER Out-Patients is again appealing for help for the Landon Tea and Entertainment, to be held as usual on Christmas Day at 2 p.m. Gifts of money, toys and particularly dolls will be greatly appreciated.

WE would direct the attention of those buying Christmas Cards to the large selection on sale in various parts of the Hospital, particularly as *all the proceeds* are donated to the Hospital funds. A substantial sum has been realised for some years, and we see no reason why it should not be augmented.

A Dedication in Victoria Ward

ON Tuesday, November 14th, No. 12 bed in Victoria was dedicated to the memory of Mrs. Philip Turner and the corresponding cot to Dr. Francis Welford. The service was conducted by the Rev. Royle, the Hospital Chaplain, and to remind those who were not present of the two whose names the bed and cot now bear we will quote from Mr. Royle's address :—

"Helen Turner, in whose memory we are to dedicate this bed, entered Guy's as a Probationer in 1896, and on the completion of her training was appointed Sister of Cornelius Ward. I suppose that to most of you she is best remembered as Sister Bright.

"Subsequent upon her Guy's appointments she did two years' work in France with her friend Miss Davidson. She will be remembered at Nimes for her pioneer work there, introducing, in spite of much opposition, a higher standard of nursing into that hospital. The larger world will remember her most for the remarkable work during the Great War when she inaugurated and controlled in an honorary capacity the British Red Cross Society's central work-rooms at Burlington House. Her energy, her unruffled temper, her serene disposition at this time made that organisation the success that it was. His Majesty the King conferred upon her, in recognition of her great service to her country, the Order of the British Empire. After 1919, as the wife of one whose name and work is honoured daily in this place, Helen Turner worked indefatiguably in the service of the Guy's Ladies' Association. With singular patience and unfailing cheerfulness she endured a long and crippling illness.

"The cot we dedicate to the memory of Francis Welford. He entered Guy's in 1887 and, after qualifying, held House appointments here before going to Australia to practise. He volunteered for Service in the South African War and was attached to the Seventh Battalion Imperial Yeomanry as a Regimental Surgeon. Those who knew and loved him tell me he was a reserved man, of a refined and loyal disposition—always ready to serve his fellow-men to the best of his ability. As a medical officer he was noted for his kindness to his patients. His friends pay tribute to his unflinching bravery in battle and in the face of danger, and he laid down his life for his country, being mortally wounded on May 28th, 1901."

The ceremony was attended by about 35 persons, which included relatives and friends and members of the Guy's Hospital Ladies' Association, by whom the £1,500 necessary for the endowment was raised.

Some Points in the Treatment of Empyema

By R. C. Brock, Esq., M.S., F.R.C.S.

THIS paper is not intended to cover the whole subject of the treatment of acute empyema, a task which would require a monograph to itself, but only seeks to bring forward or to discuss certain aspects of the treatment which it is felt are not sufficiently stressed in current teaching.

Three aspects of treatment will be discussed here: (1) the decision as to the correct time for drainage; (2) the method of drainage to be employed; (3) when to stop drainage of the chest. In these three matters lie almost all the important and usually neglected major points of treatment.

It is to be understood that many of the views expressed here are essentially personal, and it is fully realised that others may have quite different views on many of the points raised. However, they are the result of much first-hand work and meditation in an attempt to grasp a clear idea of the real fundamental principles involved, and in every possible controversial point definite arguments will be put forward for the statements made.

THE SELECTION OF THE TIME FOR DRAINAGE OF THE CHEST

The importance of selecting the correct moment for thoracotomy has only been fully realised during the last 12-15 years, and even now the necessity for avoiding too early drainage is by no means sufficiently well recognised or respected. It is not intended to go into the whole arguments for the avoidance of too early drainage, for this I would recommend perusal of the writings of E. A. Graham, and of Cameron and Osman's well-known paper[1]. The now familiar descriptive terms of "syn-pneumonic" and "post-pneumonic" empyema were first suggested in this latter paper, and are conveniently descriptive.

The post-pneumonic type of empyema is easy to appreciate. Typically it follows a lobar pneumonia of pneumococcal origin, and everyone is thoroughly familiar with the re-appearance of pyrexia after the crisis or the failure of complete subsidence of fever and gradual assumption of the swinging or septic type of temperature. This fever is associated with general signs of septic absorption and local signs of fluid in the pleura. Aspiration usually (although not always) yields thick, creamy, fully formed pus. This is not thin and running like water or serum, and if allowed to stand overnight in a test-tube yields but a negligible amount of clear serous fluid above the thick pus. If the interior of such a chest could be inspected it would be found to contain a localised collection of this well-formed pus, shut off from the rest of the pleura by adhesions. In short, one would be inspecting a well-formed abscess containing laudable pus.

The correct treatment of such a condition should evoke but little discussion since it follows one of the oldest principles of surgery, namely, the evacuation of the pus by adequate drainage. No one will be found to disagree about this, the necessity for drainage; great differences of opinion exist, however, about the mode of drainage and numerous minor points of treatment. These will be dealt with in the two later portions of this paper.

The mortality of this post-pneumonic type is, with even moderate skill in treatment, usually fairly low, chiefly owing to the fact that by the time it manifests itself the patient has recovered from the pneumonic or other infective process from which he was suffering and has developed a considerable degree of tolerance or immunity to the infection. The state of affairs is, however, quite different in the syn-pneumonic type of infection, in which the mortality is almost always high even with the most skilled treatment, and, indeed, depending on the severity of various epidemics, it may reach very high figures indeed.

It is essential to have a clear understanding of the pathology of this condition. To begin with it is advisable to keep in mind the description of a fully-formed empyema as given above—that is, a collection of pus in a well shut-off abscess cavity. If this definition of an empyema is kept well to the front, then most of the difficulties will be swept away; the term "empyema thoracis" should not, in fact, be used for any other condition. It is far too often applied loosely to what is, in effect, a diffuse suppurative pleurisy, and from this careless use of the term arises many of the mistakes that are made. For such a condition the term "pyothorax" has been recommended,

and can be applied with advantage. To some this may seem rather an arbitrary limitation of the term "empyema," but for clarity in teaching one may be forgiven for being dogmatic.

This type of pleural infection is most commonly seen in children. This is almost certainly due to the virulence of the infection being greater at this time of life. Below the age of two and to a lesser extent up to the age of five, respiratory infections are liable to assume an extremely virulent type, particularly following such conditions as measles. In adults the same type of virulent respiratory infection is not commonly seen apart from the severe epidemics usually associated with "influenzal" infection. The history is in most cases quite typical; the patient has been ill for two or three days with a high temperature and severe general constitutional disturbances, and when admitted to hospital is extremely ill and grossly dyspnœic. Examination of the chest reveals the signs of a large fluid collection in the pleura and aspiration yields a fluid which is either definitely milky or purulent in character. Unless the full significance of this is well understood, the usual reaction, especially in the first rush of enthusiasm at "striking oil," is to jump to the conclusion that the cause of the patient's illness has been solved, that he is suffering from an empyema which is causing gross dyspnœa and severe constitutional disturbances, and immediate drainage is necessary. If drainage is instituted in such a case, especially open drainage, the result is almost inevitable. Immediately the pleura is opened the patient's distress increases and death may occur on the table, on the way back to the ward, or within a few hours; some few do survive, and their condition will be discussed later. When one is acquainted with the true state of affairs present and realises the case against too early operation such a calamity seems easily avoidable. It is to be remembered, however, that only a few years ago the full significance of the condition was not realised, and is now by no means fully appreciated. It may be asked: Why not a closed drainage by means of an intercostal catheter at this stage? This will be discussed later.

The fundamental fact to be grasped in such a case is that the pleural infection is not the cause of the patient's illness; it is merely an incident in the course of what is often an almost overwhelming general infection. The patient is ill because he has a septicæmia, pericarditis, pneumonia, perhaps with lung abscess, or any other major infective lesion. From the point of view of the pleural infection the most important thing is the underlying pneumonia, and the fatal result of opening the pleura is mainly due to the additional demand on a respiratory mechanism which has almost certainly only a small margin of safety left as a result of the pneumonia. I can do no better than quote from Dr. Cameron's article in the currect number ("Symposium on Pneumococcal Infections") of the *Reports*, in which he refers to his earlier article. He analyses 52 cases of empyema in children under the age of two :—

"Of the 13 cases which recovered 12 were in this sense metapneumonic, only one was synpneumonic. Of 39 cases which died no statement could be made in five, but of the remaining 34 all were synpneumonic. All cases in this group were alike in this, that they showed in greater or lesser degree such symptoms as high temperature, rapid pulse, urgent and distressed breathing, cyanosis, delirium, meningism, expressionless faces, etc. In this series all those quiescent metapneumonic cases recovered; all the others, save one, died. In the fatal synpneumonic cases death was generally to be explained by the presence of active pneumonia or active infection in some other situation. In 28 cases out of 39 there was extensive pneumonia reported at the autopsy. Ten had suppurative pericarditis, one had pneumococcal meningitis, one pneumococcal peritonitis."

There are various things which enable one to assess the correct time for drainage. First, for convenience in description, there is the character of the aspirated fluid. In the earliest stages it is clear or very faintly turbid, slightly straw-coloured or even tinged with blood; this fresh exudate usually clots spontaneously. If left in a test-tube over-night there sediments out a very small amount of cellular material, either red cells or leucocytes. As each day passes the aspirated fluid becomes turbid and then definitely purulent; if left to sediment it will be found that the proportions of sedimented pus and supernatant clear fluid gradually change, the deposit slowly increases in amount, and the serous layer diminishes until finally the stage is reached when over 90 per cent. of the aspirated material sediments as pus and only 10 per cent. or less of clear fluid remains above it. The exudate at this time is seen to be no longer thin and running like water, but is thick and pours with difficulty; in some cases it is even possible to invert the test-tube and not to lose any. The time taken for this change in the character of the fluid to occur is at least two to three weeks. By the time it has thickened to form almost pure pus the pneumonic process will almost certainly have subsided, and what was originally a diffuse infection of one side of the chest will have localised as a well shut-off abscess

cavity; in other words, a true localised empyema will be established. By this time also other gross infective lesions elsewhere in the body will be either resolved or past their maximum activity, a considerable degree of immunity will have developed, and altogether the patient will be much better able to withstand proper drainage of the pleura.

During this period of waiting, while aspiration alone is being carried out, the patient may become even more ill and death may appear imminent. At such times considerable pressure may be put upon the surgeon to drain the chest, and it is often exceedingly difficult to resist the urge to operate. Drainage in such a case, however, will do but little more good than frequent aspiration is doing. If the patient is dying, he is dying from the pneumonia or septicæmia, or some other major infective lesion. I again quote from Dr. Cameron: "In synpneumonic cases not only is the operation, from the nature of the case, of no avail, but it may even prejudice the chances of recovery already all too slender. In our series of the 39 cases of synpneumonic empyema, 19 were located during life, and at the same time thought fit to undergo the radical operation. Eighteen died, nine within 24 hours of the operation; one case alone recovered."

In addition to the character of the fluid aspirated several other points are of great value. First there is the duration of the illness; an empyema is

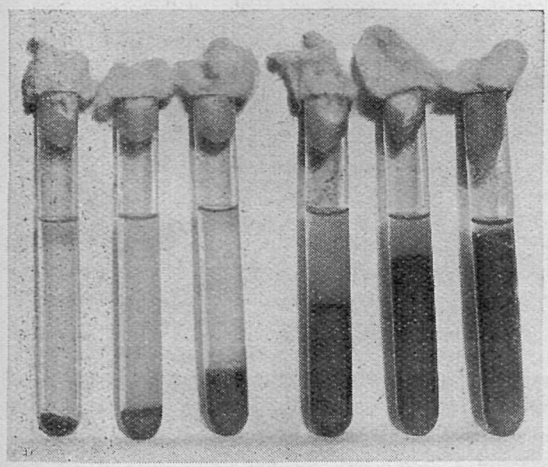


Fig. 1

To show the progressive changes occurring in the fluid aspirated from the chest in the formative stage of an empyema.

rarely fully formed and ready for external drainage before the third week of the illness. If the patient has been ill only a few days or a week and is presented to one as a very ill person requiring immediate drainage of an empyema, then suspicions should be at once aroused. Second, there is the temperature chart; when the pneumonic process is still active there is high fever, intermittent but not falling below, say, 102°—very often in little children swinging from 103-105°. When the pneumonia has subsided and a localised abscess remains in the pleura the temperature partakes of the characteristic swinging type of retained pus, often rising from a figure near normal to 102° or 103°. Moreover, and this is of great importance, if the fluid aspirated from the chest is the real cause of the patient's illness, then aspiration of an adequate quantity of it will lead to a temporary remission of temperature. For instance, the temperature may have been swinging up to 103° every evening; after aspiration of 400 c.c.'s of pus it rises to only 99.5° that evening. On the other hand, if an active pneumonic process still exists, aspiration of fluid *makes no difference to the temperature chart*, no fall in temperature follows its removal. This is a very simple fact, but one rarely appreciated.

Third, there is the general condition of the patient. If he is still so ill as to be in imminent danger of dying or is still so ill as to need administration of oxygen and perhaps cardiac stimulants, or if *during the previous few days* he has been as ill as this, then one should be very hesitant about opening the chest. It is almost certain that there is something else wrong with the patient causing the profound illness, and one is being misled into attributing to the empyema the whole of the patient's illness. It is imperative in such cases to proceed very carefully, and this applies even when the fluid aspirated from the chest is definitely purulent. It will, of course, be necessary to drain such a case, but no more than a closed drainage by means of an intercostal catheter is safe. The following notes will illustrate what is meant:—

A child, aged one year, was admitted profoundly ill with a streptococcal broncho-pneumonia following measles; there were signs of fluid in the left chest and loud bronchial breathing was audible in front; oxygen was administered continuously; he had been ill about eight days. Aspiration of the chest yielded 100 c.c.s of thin fluid, which settled out as 10 per cent. pus and gave a growth of a hæmolytic streptococcus. The child was given oxygen continuously for six days, by which time it had improved sufficiently to do without it. The chest had been aspirated five times, and one week after admission the sedimented layer was 75 per cent. of the whole exudate. On the eighth day after admission (some 12-14 days since onset

of illness) it was decided that operation was necessary as the child was very distressed. The whole of the left side of the chest was dull and silent; it was assumed the illness was due to the collection of fluid in the chest. On the following day a small segment of rib was excised and the chest drained. The whole procedure lasted less than five minutes, nevertheless, immediately the pleura was opened the child became very much worse and distinctly cyanosed. It was placed in an oxygen tent at once, but its condition failed to improve and it died some three hours later. At post-mortem it was found that there was a diffuse broncho-pneumonia of the whole of the left lung, and at one point a cluster of tiny abscesses adjacent to the pleura had ruptured and given rise to the suppurative pleurisy which was present. There had been some localisation of the infection, but the, as yet, delicate adhesions had broken down and allowed the whole lung to collapse. There is little doubt but that the rupture of these superficial abscesses into the pleura caused a more rapid thickening of the pus than would have otherwise occurred. Even then

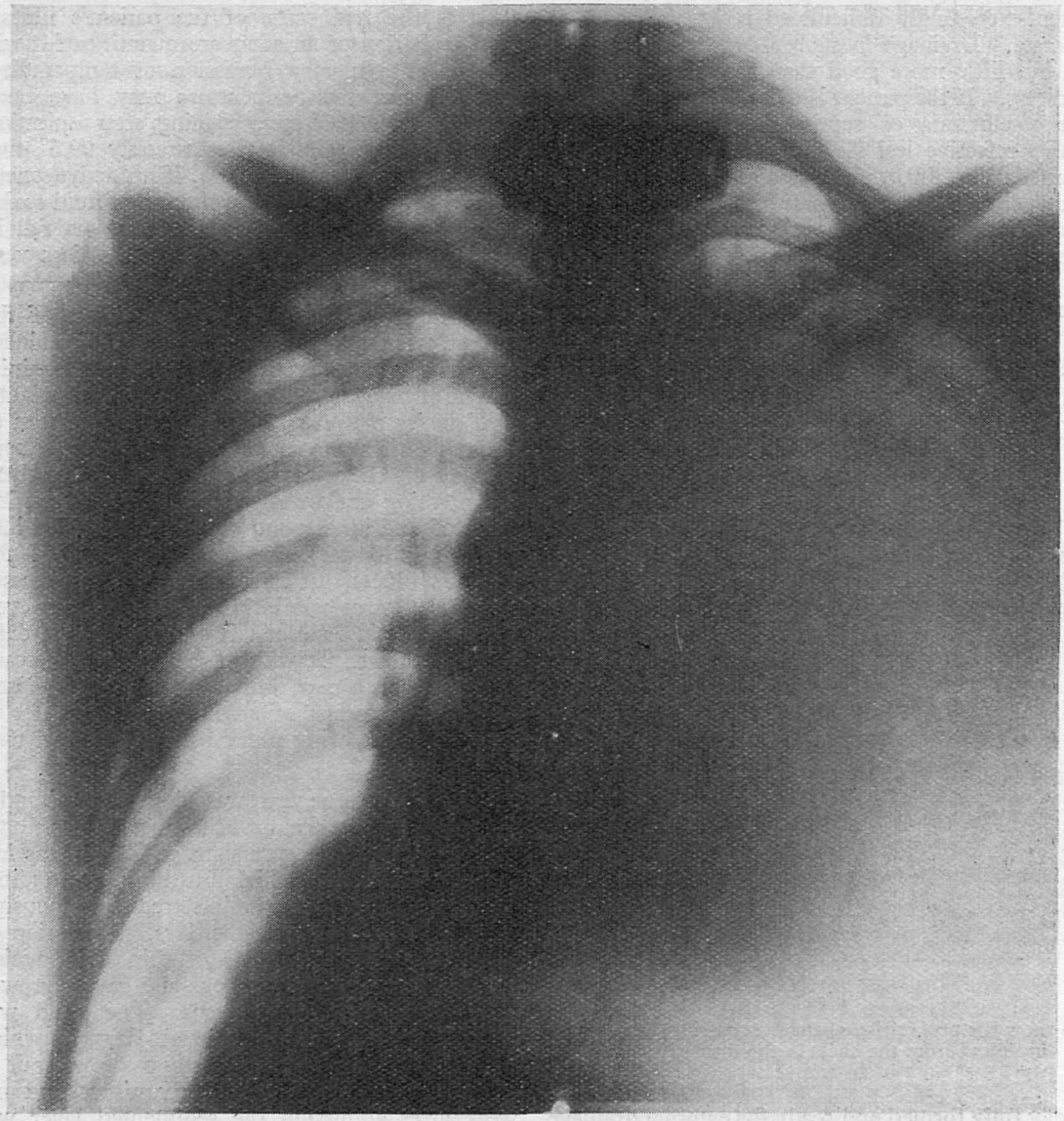


Fig. 2
Unilateral pleural effusion before aspiration and air replacement.

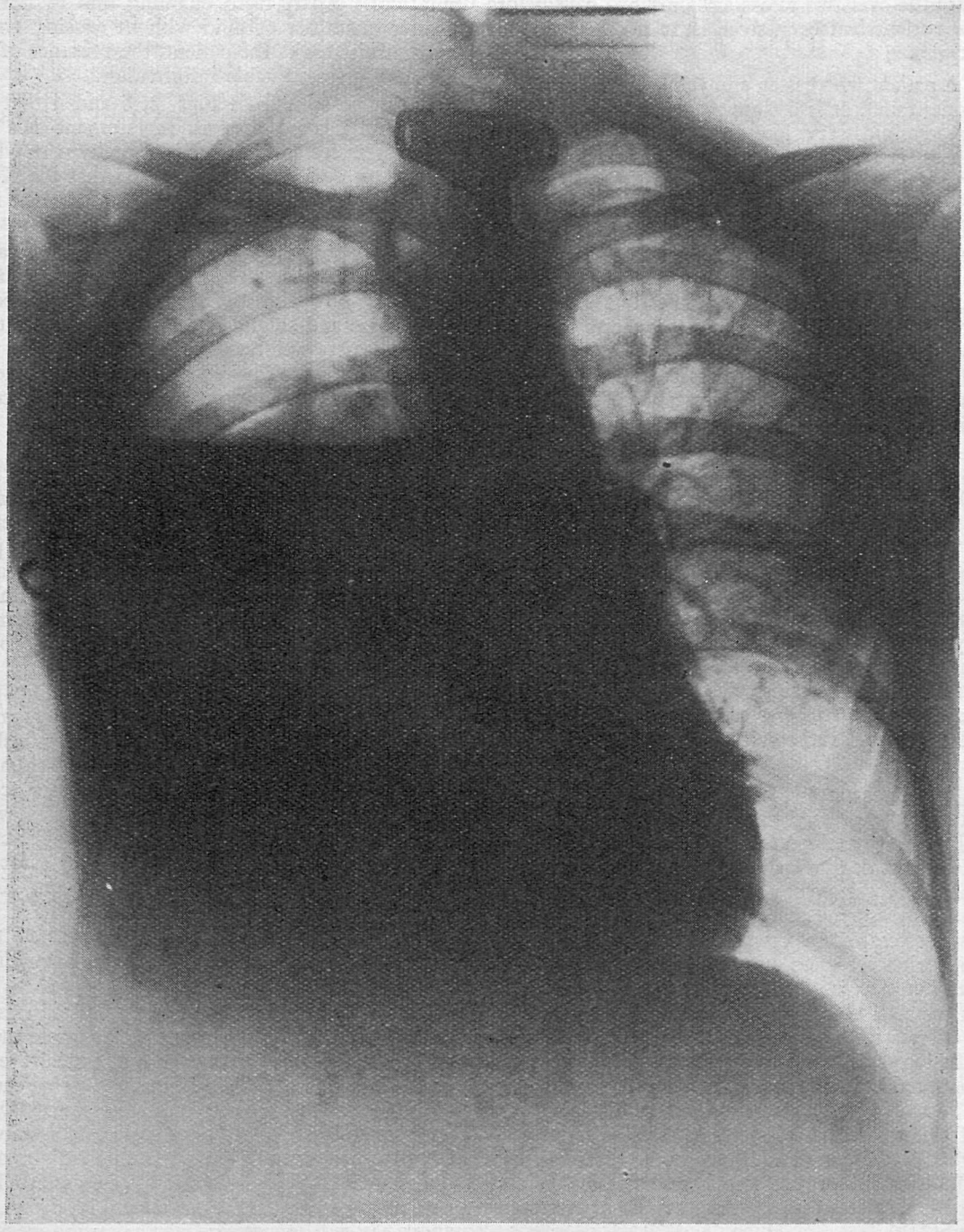


Fig. 3

The same after aspiration and replacement by air (upright view)

one should not have been misled into operating, seeing that the total duration of the illness was but little over two weeks and only two days before the patient had been so ill as to need continuous oxygen.

A patient who has an empyema and an empyema alone, unless it is a large neglected one and he is already laid very low from a preceding severe illness, is rarely gravely ill, and there is scarcely ever urgent need to operate. I do not wish to be misunderstood in this; where pus is present it should, of course, be evacuated as early as possible and it is not suggested that unnecessary delay should occur. On the other hand, it should be clearly appreciated that the need is but rarely urgent. It may be desirable to operate the same day that pus is found, but it is not essential to do so; an empyema is never an emergency. One stresses this because an atmosphere of urgency may be created concerning a patient who is gravely ill, and it may be felt that immediate operation should be performed. It is in such cases that one has to be very hesitant; a delay of two or three days even will almost certainly make but little difference in most cases of pure empyema. It may be taken as a general rule that if any doubt exists as to whether immediate drainage of the chest is needed, then it is far better to temporise. No possible harm can come from this, but by rushing in to operate too soon the balance may just be turned against the patient. During this waiting time efficient aspiration or drainage by an intercostal catheter to a closed system should be carried out.

At a recent higher surgical examination an examiner expressed to a candidate his disbelief in all the bogey of too early operation for empyema. He stated dogmatically as his considered opinion that there was never need to delay operation. One can only assume that as a surgeon he has had his cases of empyema served up to him by a physician fully ripe for operation. It is inconceivable that he should have watched the course of the illness in a small child with a severe streptococcal infection with an accompanying purulent pleural effusion and gone away with the idea that it mattered but little when operation was performed. The management of such a case and the selection of the very best moment to operate requires as great a degree of skill as in any other major condition in surgery, and is not met by the self-satisfied dictum that operation is necessary on sight.

The question of aspiration of the chest needs fuller consideration. It is a good plan, whenever fluid is removed from the chest, to replace it with some air at the same time. No more than four-fifths of the volume of fluid removed should be replaced by air, and often much less than this is sufficient. Apart from enabling one to remove greater quantities of fluid without causing symptoms of distress to the patient, the presence of the air often gives valuable information.

It can be seen from Figs. 2, 3 and 4 that the fluid level formed after air replacement tells one at once the size and limits of the cavity with which one has to deal; it is to be noted that the X-ray before the introduction of air gives no such idea of the true size of the cavity.

In most straightforward cases of empyema no useful information will be gained by this manœuvre, but every now and again it will prove to be of great value and should be employed as a routine. In fact, it may well be stated as a general rule that whenever fluid is removed from the chest some air should be put back in its place. An instance of how valuable this may prove is shown by the following case :—

After an abdominal operation a patient developed peritoneal infection, and later abnormal signs at the left base. A needle was inserted through the seventh interspace and drew off pus. Without further consideration an intercostal catheter was thrust through this space and immediate drainage instituted. At the post-mortem examination two or three days later it was found that the catheter was in a subphrenic abscess and had passed through a virgin pleura before perforating the diaphragm. The mistake was made here of rushing into drainage in the first flush of finding pus without waiting to analyse the situation properly. No X-ray examination of the chest had been made, and it may be stated somewhat dogmatically that only under the rarest of circumstances should any operation of any sort be performed on the chest without a recent X-ray examination. If in this case aspiration of pus had been followed by air replacement and then X-ray examination, the true nature of the condition would have been at once apparent.

When fluid has been removed from the chest it should never be thrown away, but a sample should always be kept in a test-tube and put above the patient's bed. It is astonishing with what monotonous regularity the same reply is received when one demands to see aspirated fluid; it has always been thrown away or perhaps somebody or other unknown has got it hidden away in some hole or corner unknown. If a specimen is always left above the bed, as a routine, just as a urine specimen is left, it would be much more satisfactory. From the point of view of the surgeon it is, of course, essential that he sees the exact nature of the fluid for the presence of which he has been asked to

operate. Unfortunately, it is very uncommon for a surgeon to demand this before operating, and if he makes a practice of omitting it disaster will be bound to follow one day. It may be said that one can always see the character of the fluid at the aspiration, which should be the first step of the operation. This may be satisfactory, but is risky; the true nature of the fluid can often only be appreciated after it has been allowed to stand in a test-tube over-night.

When aspiration is being carried out regularly during the formative stage of the empyema it is again essential that a sample of every aspiration should be kept and labelled. If these tubes are put in a rack above the bed one can read the progress of the case at a glance. A characteristic succession of tubes is shown in Fig. 1.

A word as to the frequency with which aspiration should be carried out during this formative stage while the patient is still gravely ill from pneumonia. Many people tap the chest just as often as seems necessary from embarrassment to respiration occurring as a result of accumulation of fluid. This may mean once a day or once every two or three days. It can be shown that the rate of absorption of fluid (and therefore of toxic material) from the pleura is grossly increased both by increased volume of fluid in the pleura and by deep respiration. If one waits for the chest to fill up, the mediastinum to be displaced, and the

Fig. 4
After aspiration and air replacement (horizontal view).

dyspnœa already present from the pneumonia to be accentuated, then one is allowing absorption of this toxic fluid to occur at an alarmingly rapid rate. It would appear, therefore, that aspiration should be practised much more frequently, in fact, twice a day would not be too often when the patient is very ill and fluid is forming freely. If the manœuvre suggested by Mr. Tudor Edwards is employed, this can be done easily without the difficulties associated with frequent infiltration with local anæsthesia and without a troublesome cellulitis of the chest wall developing. When the local anæsthetic is given for the initial aspiration a short incision is made down to the intercostal muscles and the small wound packed open; subsequent aspirations can then be carried out much more simply and without undue disturbance of the patient.

To recapitulate the points which should influence the decision as to performing or delaying operation :—

1. The age of the patient. The synpneumonic empyema is much commoner in children, particularly under the age of two. Special care is needed in their case.

2. The preceding history. An attack of measles or whooping-cough, or illness during an influenza epidemic.

3. The duration of the illness. Never in the first week, but rarely in the second week, and usually not until the third week is it safe to drain.

4. The general condition of the patient. Be suspicious when the condition is grave, or has been serious during the last few days.

5. The temperature chart. Temperature should be of the swinging type, be modified by aspiration of an adequate quantity of fluid.

6. The character of the aspirated fluid. It should be thick and not running; after settling out in a test-tube at least 90 per cent. should be sediment.

THE MODE OF DRAINAGE OF THE CHEST

It is in this aspect of the treatment of empyema that so much difference of opinion exists, much of it one must state comes from misunderstanding of the actual principles involved. We find on examination that there are two parts of the subject to consider: (1) The type, chiefly the size, of the drainage hole to be made in the chest; (2) Whether a "closed" or "open" method should be used.

In the first place, simple aspiration must be considered. There is no question that empyema thoracis can frequently be cured by aspiration, especially if aided by air replacement. There is abundant evidence of this in the literature, and, as in almost every aspect of empyema, many of the articles one reads put forward the method as a new and original treatment introduced by the particular author; like almost every method in use, it has quite a long history. The American Empyema Commission of 1917 and 1918 in a review of their 7,000 cases found that 13 per cent. were cured by aspiration alone. Two cases have been personally treated by aspiration alone with success, and were both in children and were both small interlobar collections; doubtless the compressive force of the lung on each side of the cavity aided in the obliteration of the cavity in both these cases.

Apart from this relief of certain selected cases by aspiration alone, what is the general standard of drainage to be desired? There is no question at all as to the answer, an answer spoken firmly by Arbuthnot Lane at this hospital some 50 years ago,[2] namely, that adequate drainage which can only be provided by excision of a segment of rib. This step is now undeniably amongst the classical standard procedures of surgery. It is simple, but nevertheless it stands and must always stand, because it is founded on irrefutably good surgical principles. The treatment of empyema is a thing of great antiquity; there is positive evidence of it as far back as the time of Hippocrates, who writes much on the subject. Throughout the many centuries that have passed since his time *every conceivable method of treatment* of empyema has been tried; even Arbuthnot Lane's suggestion of rib-resection was originally carried out by Ambrose Paré in the 16th century. As a result of the unsatisfactory results of the lesser forms of drainage employed throughout all this time, the general efficacy of the principle of rib-resection to provide an adequate vent has emerged. One continually hears the question, "But *why* should rib-resection be necessary?" The answer is that Lane's vigorous championship of the step was the end of these many centuries of dissatisfaction.

Let those who write and talk and think of so-called "new" and modern 1933 methods of treatment of empyema pause to consider that none of their methods are new. If they went back no further than the literature of the last century they would find all their new ideas had been anticipated and tried out many times. It is true that in certain instances the exact arrangement of bottles may not have been produced, but no single new principle will have been introduced. Anyone who has studied the question of the present-day treatment of empyema cannot but

observe this deliberate tendency on the part of many workers to avoid the step of rib-resection and point with pride to their own particular modification of some form of intercostal drainage.

Let it not be thought for one minute that it is being suggested that there is no place for intercostal drainage in the treatment of empyema. It is a method which can undoubtedly lead to a complete cure, as one knows from personal use. In certain selected cases it may be all that is necessary from beginning to end. To make it an ideal to be achieved in every case is, however, quite different. It is difficult to see what the objection to the step of rib-resection should be. Performed under local, or a short gas and oxygen, anæsthesia it is an operation of minor severity in reliable hands, and does not lead to any unpleasant or undesirable symptoms immediate or remote. The negligible risk of infection of the cut rib is no more than the almost inevitable periosteitis that accompanies a catheter left between two ribs. Intercostal drainage is of value when one is doubtful if it is safe or wise to embark at once upon the step of rib-resection. This is usually in the later stages of a pneumonic process, when the presence of a purulent effusion is felt to be adding a decided extra burden to the patient's already grave load, and yet one is not confident that satisfactory localisation has occurred. Or, again, when the patient has a large, perhaps neglected, empyema and is in a very poor general condition, often much wasted and suffering considerably from gross toxic absorption on top of what has probably been a very severe illness. Although in such a case satisfactory localisation has occurred, a few days of intercostal drainage will give considerable relief of toxæmia, bring the temperature down, and make considerable improvement in the patient's general poor condition. The sudden evacuation of a large collection which follows rib-resection is not altogether desirable, and the preliminary intercostal drainage acts as a means of " decompressing " the chest.

The great disadvantage of the intercostal catheter is that, however carefully one looks after it, one is never certain if efficient drainage is taking place, and this difficulty increases as every day passes. After three or four days any doubts about the readiness of the empyema for more adequate drainage should have been settled and a rib can then be resected. In some few cases it may be considered sufficient to continue with the catheter alone, *but this is exposing the patient to the great risk of a chronic empyema*, or, at any rate, an unnecessarily prolonged period of drainage, and this risk is a large one compared with the trivial step of rib-resection and the great chances it gives of a speedy recovery.

It may be asked, Why not institute closed drainage by means of an intercostal catheter at an early stage in the formation of the empyema instead of aspirating and waiting? This can, of course, be done and, in fact, is done by many. One feels, however, that it is not a sound step to take. To begin with simple aspiration is perfectly adequate to deal with the condition, and the danger of a delirious or restless patient, especially a child, pulling out the tube and giving himself an open pyopneumothorax is very big and constitutes an unnecessary risk. Further, it is unquestionably not safe or desirable to exert a constant degree of extra negative pressure on the outside of a diseased lung; rupture of a weak area may easily follow. That cases are treated safely and satisfactorily by this means during the formative stage merely shows that it can be done and " got away with." It is, however, not a safe step, and for general use should be deprecated; its use tends too much to blunt over the necessary respect that should exist for too early drainage.

The provision of good and adequate drainage at the very best time is by far the most important aspect of the surgical treatment. Secondary in importance to this are various details about the technical side which need brief consideration; so often, however, these secondary features are made to assume a position of first importance to which they are by no means entitled.

The position of the drainage hole is chief in importance of these. For the ordinary basal type of empyema this should not be made too far forwards, else it will be found to give insufficient drainage. The most usually selected site is just in front of the posterior axillary line where the muscle layer is less thick and where the tube is out of the way of direct pressure when the patient is lying comfortably back on pillows. On the other hand, no less an authority than Tudor Edwards prefers a site much further back in the scapular line, his reason for this being that the paravertebral gutter is the region where the cavity is more slow in closing, and he believes that this area should therefore be the one most directly drained. He, moreover, departs from the generally accepted teaching that drainage should be made at the most dependent part of the cavity, and prefers to make it considerably higher. He bases this on the argument that as the cavity is progressively obliterated the diaphragm rises and will come to impair the efficiency of a drainage hole situated low down. If the tube merely passes through the chest wall and does not project any

distance into the cavity there is no doubt that this is a correct reasoning; it does not hold, however, if the tube is allowed to project inwards a short distance. Moreover, one feels that the advantages claimed for it are outweighed by the fact that the *cul-de-sac* of cavity below the level of the drainage hole must be inadequately drained for some considerable time even if the diaphragm does rise eventually.

The question of open or closed drainage has next to be considered. Again one finds that many people use one or other method without being at all clear as to the reasons for so doing. There is but little doubt that very often the use of closed drainage is in the nature of following a fashion, and, as so frequently happens in such a case, the fashion is followed blindly or abused.

Arguments can be brought for and against both sides. Very often, however, the users of closed drainage will merely make a dogmatic statement that "it is now generally agreed that closed drainage is desirable in the treatment of empyema." Such a statement is not only inaccurate, in that many people do not believe so, but it is also loose and unscientific.

The arguments brought forward are that it is better to perpetuate the condition normally present in the chest and that, if drainage is arranged into a closed system exerting a negative pressure, then it will be facilitated, the expansion of the lung will be hastened, and to a lesser extent secondary infection of the cavity will be prevented.

It is best to examine each of these points separately. In most of the closed methods any improved drainage that might result would in any case be negatived by the inadequate size of the hole employed. Even when an adequate hole is used it is difficult to see the reason why the drainage should be measurably better than that obtained with an "open" tube. Such a tube, properly placed, aided by gravity and the "vis a tergo" supplied by every act of breathing or coughing, provides a perfectly adequate drainage.

With regard to assisting the lung to expand more rapidly, in the ordinary average straightforward case operated on at the correct time the lung expands and obliterates the cavity at a remarkably rapid and satisfactory rate by itself; in children this is particularly well marked. One has an excellent mechanism for providing plenty of "negative pressure" in the ordinary respiratory movements of the chest wall and diaphragm. Even with an open hole in the chest the act of inspiration produces inflation of the *whole* lung and diminishes the size of the cavity. This can be readily seen if the cavity is filled with fluid, because with each breath the fluid rises and falls, and if a deep breath is taken or a cough is made, then the fluid overflows or is shot out forcibly for some distance. Moreover, it is to be remembered that with a so-called "open tube" when dressings have been carefully applied, particularly when they are wet as they should be as a result of the irrigation of the cavity, there is no "open pneumothorax," it is now closed and has been converted into a "closed" drainage.

When visualising the effect of a negative pressure applied to the empyema cavity the mistake is made of picturing the lung being sucked out by this negative pressure *applied to a limited area of its whole surface*; of course, in actual fact the big expanding force is the *general* increase in size that occurs with *inspiration*. Moreover, even with expiration there is in addition a *local* ballooning out of that portion of the lung which is not supported where the cavity is. Advantage is taken of this latter fact in the use of Woolfe's bottles to assist lung expansion. The efficiency of this method can be seen by screening the patient when he is blowing bottles or merely holding his nose and blowing up his cheeks, when the lung can be seen to expand in most cases even touching the chest wall. In some directions there is considerable criticism of this use of "blow-bottles" in assisting expansion of the lung. The argument apparently put forward is that the patient should be taught *inspiratory* and not expiratory exercises and movements and that the act of expiration against resistance tends to collapse and not to expand the lung. I would point out in this connection first that, if one is going to expire deeply, one *must* first of all *inspire* deeply, and secondly, that no notice has been taken of the hole in the chest. If the lung was everywhere supported by chest wall then it would be true, but in this case the one portion of the lung which it is desired should expand is *unsupported*, and when the pressure rises in the chest during expiration this portion *must* balloon out, and as already mentioned, this can be actually observed to happen under the X-ray machine.

There are only two sets of circumstances when the lung fails to expand freely and readily when simple open drainage is employed. One of these is if a pleuro-bronchial fistula is present, and the other is when one is dealing with lung bound down either by a dense layer of pleura resulting from gross delay in operating or by fibroid changes as a result of disease in its substance. In both these conditions one would be glad of the assistance that a closed drainage should give; in

actual practice it is, of course, impossible when a pleuro-bronchial fistula is present and makes no noticeable difference when the lung is bound down by fibrous tissue. It is true that the lung will slowly expand under such circumstances, but this is no proof that the negative pressure applied to its rigid surface had any measurable effect. It is the " vis a tergo " that counts, as can be shown by producing the same expansion when an open drainage is used. Only too often has one observed the complete failure of " negative pressure " to do any useful service in the case where it was most needed.

Mention was made at the beginning of the paper of the patient who has an opening made into the chest during the early formative stage of an empyema, when no localisation has occurred and yet survives the event. The result is an enormous cavity occupying the whole hemithorax, with a lung collapse down against the mediastinum. It is in this sort of case that a closed drainage following rib-resection is likely to be of most value. The lung is not covered by dense pleura, and a *mild* negative pressure exerted over its whole surface can only be of value. One must, however, view the use of closed drainage in this case, not as a means of dragging the lung out from its collapsed state, but as a means of *assisting the maintenance* of the gradual expansion which will follow the respiratory movements alone. In such a serious case one must take advantage of every small detail of treatment that can possibly help, and to exclude the benefit to be obtained from a closed drainage would be wrong. It is, however, only of very limited supplementary value. If the effect of a constant negative pressure on the outside of the lung plays the major part that is claimed for it by many in expanding the lung, then it must be admitted in such a case the lung expansion should be rapid and obvious. In actual fact the process of expansion is a very slow one and may *never be complete.*

Many surgeons claim that they use " closed drainage " and even mislead themselves into thinking they do when, in actual fact, the method fails. By this is meant that to keep a closed system of drainage under negative pressure functioning properly needs a great deal of constant care and no little skill and ingenuity. Even the staunch supporters of the method freely admit that in a very large percentage of cases it fails after a few days or a week, and treatment has to be carried on with an "open" tube. Even if one is using a reliable system then for ordinary hospital work in the average case the difficulties in the way of achieving and maintaining a constant closed system do not balance the very small advantages to be gained by it. This is again particularly so in children; it is exceedingly difficult to maintain a satisfactory closed system in their case, and the lung expansion is always so rapid that nothing is gained by attempting such a difficult task. To operate and instal a closed drainage on a case at some distance or in a hospital where no constant personal supervision can be carried out is almost useless.

By far the simplest, best and most easy means of procuring a closed system of drainage is by use of a Tudor Edwards tube. For the benefit of those not acquainted with it, it is a wide tube of about half-inch internal diameter with a flange at one end. It is inserted after rib-resection and the muscles and skin of the chest wall sewn snugly around it. The flange rests on the parietal pleura and prevents the tube slipping out; another adjustable flange on the tube is pressed down against the skin and can be tied firmly against the chest wall by tapes so that the tube is held securely in place. A fine catheter is incorporated in the tube for irrigation purposes. The tube is then connected to some simple closed system. This is, as already stated, far and away the best means of securing an airtight drain, but how grossly one finds it abused! The great drawback that always exists in connection with pieces of apparatus bearing the name of a well-known worker is that they are so frequently used without any care or thought on the part of the user; they are taken as short cuts to treatment. They are often used in much the same way that one sees electrical belts or finger rings advertised in the newspapers as a certain cure for rheumatism. You wear the ring and the ring does the rest; fix a Tudor Edwards tube to the patient and the tube cures the empyema.

The much-criticised open drainage suffers, one fears, from the grave drawback of not looking so up to date and scientific as the other methods discussed. In actual fact it is thoroughly sound in principle and perfectly satisfactory in practice. It, moreover, has the great advantage of simplicity, *which is a big point in the management of a condition which is so universal in its occurrence as empyema thoracis.* If the points of after-care to be described later are carefully followed, then the dressing and care of the case can be safely left in its greater part to a relatively unskilled person. With any of the closed methods constant expert care is needed. Further, and this is again important, the treatment of an empyema should be, wherever possible, ambulatory. For a patient to be tied by a tube to a bottle is a great hindrance to activity. With an open tube the patient can usually be got up at an early date, is more able to carry out his

breathing exercises efficiently, and by his extra activities considerably hastens the expansion of the lung.

When the American Army Empyema Commission did its work in 1917 and 1918, it had opportunities for clinical research which have never been equalled before or since. They were dealing with huge numbers (some 7,000 cases were reviewed) of men, all previously healthy young adults, afflicted by the same disease (streptococcal pneumonia) and placed under the same environment (army hospital). They were able under these conditions, which, it must be admitted, were most exceptionally well controlled for clinical research, to compare the results of *every known* method, trick or device ever suggested in the treatment of empyema. A whole ward or group of wards could be devoted to one method and one method only. The doctors and nurses staffing those wards would acquire considerable skill in each method and direct observation and comparison could be made of the results. As a result of this exceptional opportunity for comparison of all methods the Empyema Commission decided that the most satisfactory and generally useful and successful one was drainage by means of an open tube after the preliminary period of aspiration. These observations did not have the objection that appertains to many sets of figures about various forms of treatment of empyema. They all pertain to the same epidemic. To compare figures obtained by different forms of treatment used from one year to another is useless. The yearly variation in the severity of different epidemics is considerable. In a discussion by the B.M.A. in 1925 it was remarked that at the London Hospital the yearly mortality varied from 8 to 40 per cent.[3] No figures are of any value at all if taken over a period of *less than five years*, *i.e.*, five years for one method and five years for another method. But yet how often does one see papers published in journals of considerable repute which describe a " new method " of treatment, based on the results of a handful of cases.

It is hoped that this discussion of the question of open *versus* closed drainage does not appear ill-balanced or too partial. It is meant to be an attempt to examine carefully the fundamental principles on both sides. It is not suggested that closed drainage is wrong or unsound. It is an excellent method of treatment in good hands, and there is but little doubt that if it can be used successfully and properly from the beginning to the end of treatment it will produce a cure in a slightly shorter time than the open method. Against this possible slight diminution in the period of convalescence is to be reckoned the considerable extra care and attention needed, the absolute failure of the method in a large number of cases, and the dangers of mistreatment when in the hands of those ignorant of the principles involved.

(*To be continued.*)

Toxæmia in Intestinal Obstruction

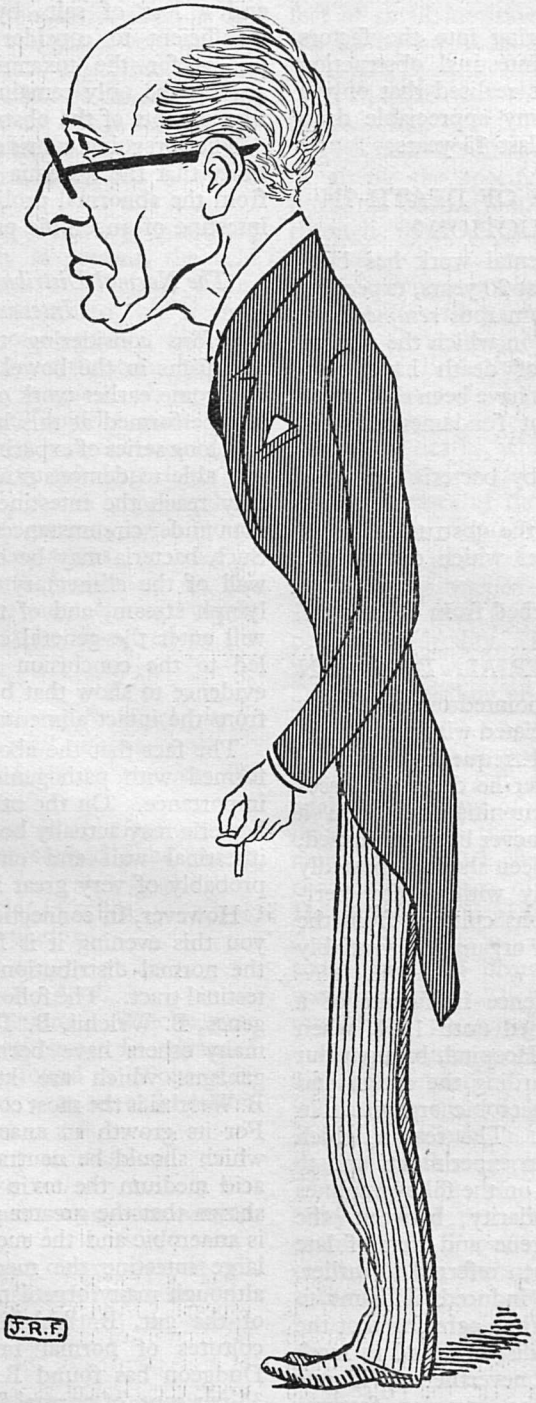
A Paper read before the Physical Society by R. W. Cope, Esq.

INTRODUCTION

MR. CHAIRMAN and GENTLEMEN,—In the following discussion it is proposed to analyse the phenomena of Toxæmia in Intestinal Obstruction produced only by mechanical means. The cause of the process commonly known as paralytic ileus is not the primary question to be settled here.

The similarity between the late stages of acute intestinal obstruction and general peritonitis is very striking to the observer. This is well shown by a quotation from a standard text-book[1] on the clinical aspect of late intestinal obstruction. " The face is pale, the pulse rapid and feeble. The hands and feet and tips of the nose and ears become cold. He usually remains conscious to the end and may fail to realise the gravity of his condition." Again describing the appearance of peritonitis the author says : " The face is pale and drawn, and assumes an anxious expression. The eyes are clear and bright and mental faculties are even abnormally alert. The face and extremities become cold and cyanosed. The pulse becomes small and running. As a rule the patient remains conscious to the last, sometimes ceasing to complain or even expressing himself as ' feeling better.' "[2]

As a further comparison it is interesting, especially in view of what is to be said later about the action of certain bacteria, to read the report of a committee of the Medical Research Council[3] upon the clinical aspect of gas gangrene resulting from war wounds, as follows : " Vomiting is frequent ; the pulse becomes rapid and is finally uncountable. The extremities are cold and blue and the temperature falls. It is a remarkable



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fact that the mind remains acute even to the end. In the terminal stages some degree of icterus may be present."

The importance of inquiring into the factors producing death in acute intestinal obstruction becomes apparent when it is realised that only a very few observers report any appreciable drop in the mortality during the last 15 years.

WHAT IS THE CAUSE OF DEATH IN ACUTE OBSTRUCTION?

A great deal of experimental work has been done on this subject in the last 20 years, expecially in the United States, and numerous *résumés* have appeared from time to time, in which the various theories as to the cause of death have been enumerated. These theories have been elaborated in many different ways, but fundamentally fall into three main groups :—

1. Invasion of the body by bacteria from the damaged bowel.
2. Reflex nervous action, the obstructed bowel being the source of impulses which disturb the general system.
3. Chemical poisons absorbed from the bowel.

I.—THEORY OF BACTERIAL INVASION

In 1902 Von Genersich[4] pointed out that cases of obstruction are often associated with peritonitis, and that then the blood will frequently show the presence of organisms. Later he described cases of obstruction without peritonitis, but with a bacillæmia. This work has never been confirmed, and, on the contrary, it has been shown repeatedly that death occurs frequently without any peritonitis, and on those occasions cultures from the blood, liver, spleen and other organs are invariably sterile.

No further positive evidence in favour of a bacterial theory was published until 1927, when Williams,[5] of St. Thomas's Hospital, brought out some important results regarding the action and presence, etc., of certain anaerobic organisms in acute intestinal obstruction. The reason which induced Williams to perform experiments and to draw conclusions from them on the following lines are interesting. The similarity between the clinical aspect of gas gangrene and that of late intestinal obstruction has been referred to earlier, and it was this fact which induced Williams to carry out his researches. While agreeing that the local conditions in the two diseases tend to mask the general resemblances, nevertheless, if one excludes the local signs, the common features present a symptom complex striking and peculiar compared with almost any other toxæmia. This clinical resemblance in the two diseases suggests that the toxæmia originates in the same way in each. In acute intestinal obstruction dehydration and a loss of salts by vomiting occur. It is insufficient to consider this an adequate cause *per se* for the toxæmia. Therefore, Williams argues, the only remaining source of toxæmia is the contents of the obstructed intestine.

The foregoing considerations suggest the possibility that the toxæmia so described might result from the abnormal proliferation in the obstructed intestine of anaerobic organisms.

The Normal Distribution of Anaerobes in the Intestinal Tract

Before considering the growth of anaerobic organisms in the bowel it is important to realise that some earlier work on intestinal bacterial flora was performed at this hospital. W. H. Ogilvie,[6] by a long series of experiments on men and animals, was able to demonstrate that pathogenic bacteria may reach the intestine in a living condition in man under circumstances by no means exceptional. Such bacteria may be carried through the intact wall of the alimentary canal and may enter the lymph stream, and of these a certain proportion will enter the general circulation. These results led to the conclusion that there was abundant evidence to show that bacteria might be absorbed from the intact alimentary canal.

The fact that the above experiments were performed with pathogenic bacteria is not of first importance. On the other hand, the finding that bacteria may actually be carried through the intact intestinal wall and enter the blood stream is probably of very great importance.

However, in connection with the subject before you this evening it is first necessary to consider the normal distribution of anaerobes in the intestinal tract. The following anaerobes, B. Sporogenes, B. Welchii, B. Tetani, B. Histolyticus and many others have been isolated. Of these organisms which are known to produce toxin, B. Welchii is the most constant and most abundant. For its growth an anaerobic medium is needed, which should be neutral or slightly alkaline. In acid medium the toxin is destroyed. Herter has shown that the greater part of the small intestine is anaerobic and the medium is alkaline. In the large intestine the medium becomes acid, and, although many organisms are present in this part of the gut, B. Welchii is often obtained from cultures of normal fæces. But more recently Dudgeon has found B. Welchii present in only 35 per cent. of normal fæces from human cases.

While food is passing from stomach to cæcum the reaction changes from acid to strongly alkaline, back to neutral or slightly acid in the terminal

ileum. So the lower part of the small intestine is alone suitable for the proliferation of B. Welchii should the necessary conditions arise. But, as can be seen by a barium meal, food passes very quickly through the small intestine. Therefore, in the normal subject, only a fraction of time taken by food in its passage through the gut is suitable for the growth of anaerobic organisms. On the other hand, ideal conditions exist when the bowel is obstructed at certain sites.

Similarly with obstruction of the large intestine; so long as stagnation only is present, the acid reaction would destroy the B. Welchii toxin. Clinically this is well demonstrated. It is suggested that the extension of stagnation into the small intestine makes a chronic obstruction become acute. Broadly speaking, organic obstruction arising primarily in the small bowel is acute from the onset; that arising primarily in the large bowel may be chronic at first. On this hypothesis we should expect to find B. Welchii in large numbers in the small intestine of patients with acute obstruction. In the later stages of disease organisms should be found higher up in the intestine, eventually in the stomach and vomit, although here the toxin may be destroyed by the acid reaction.

Evidence of the Proliferation of B. Welchii in the obstructed Small Intestine

In the vomit and small intestine contents the identification depends on :—

1. Presence of organisms morphologically resembling B. Welchii in the stained films and in meat media cultures.
2. Formation of storm clot in milk.
3. Results of mouse inoculation.

Examination of Vomit

In acute intestinal obstruction, B. Welchii were found in 11 out of 12 specimens. In advanced peritonitis, B. Welchii were found in 19 out of 20 specimens. All the vomits were much contaminated by other organisms.

Controls

Two cases of pyloric obstruction—one simple, one malignant.

Three with no intestinal obstruction at all. These five cases had no B. Welchii present.

Twelve test meals were performed for various conditions, with no result.

Examination of Small Intestine Contents

(*a*) From four cases of peritonitis at post-mortem B. Welchii were present in large numbers.

(*b*) From six cases during life with intestinal obstruction and peritonitis four had jejunostomy performed for various reasons, the fifth had two feet of small intestine resected for volvulus, and the sixth had a duodenal fistula and peritonitis from cholecystitis.

In all these cases B. Welchii were found in great proliferation.

The next investigation was a therapeutic test of giving the specific serum to cases of acute intestinal obstruction, and to cases of peritonitis through other causes. Their results were as follows :—

1. *Serum given when necessary to cases of acute appendicitis with peritonitis.*—From 1919 to 1923 the gross mortality was 6.5 per cent. in 1,418 cases. In 1924 there were 256 cases of acute appendicitis and 18 were treated with serum (10 were children under 12 years of age). There were three deaths, which gives a percentage figure of 1.17 mortality rate. Control in 1925. There were 111 cases of the same disease who had no serum. The mortality was then 6.3 per cent.

2. *Serum given when necessary to cases of acute intestinal obstruction.*—Control—from 1919 to 1923, there were 214 cases and 53 died, or 24.8 per cent. mortality. From 1924 to 1926, 54 cases were treated with anti-toxin and five died, giving a very low reading of 9.3 per cent.

It must here be pointed out that the above figures do not agree with other observers. An American, C. Jeff Miller,[7] of New Orleans, analyses 343 cases of all types, excluding paralytic ileus, and finds that 299 died—that is a relative mortality of 60.9 per cent. Z. A. Cope,[8] in a consecutive series of 301 cases at St. Mary's Hospital, finds a gross mortality of 46 per cent. Again, in an analysis of 3,625 cases of all types of acute intestinal obstruction, excluding ileus, it was found that 1,226 died, which gives a mortality rate of 38.8 per cent.[9]

In an attempt to compare the mortality figures for acute intestinal obstruction of this hospital with those quoted by St. Thomas's Hospital, Mr. P. C. Clarkson and I examined the Clinical Reports of this hospital for the years 1925-1928. There were 82 cases which gave a relative mortality of 52.1 per cent. It had been hoped to examine the Reports of more recent years and so to form an estimate of the occasions on which anti-gas gangrene serum had been given and its results. This was impossible owing to a clerical error in that, except on a few occasions, no note had been made as to whether serum had been administered or not.

Amongst those workers who advocate the giving of serum a fairly uniform opinion is held regarding the size of dose. This is that an initial dose of

80 c.c. should be given intramuscularly combined with 40 c.c. intravenously in very severe cases. Then 40-80 c.c. should be given daily until the bowels are working normally.[10]

The validity of Williams's hypothesis has not been proved up to the hilt. This may be owing to the fact that the toxæmia is not due to any one specific cause. As further experimental work will show, there are very probably diverse agents at work against the whole metabolism of the body. But it seems clear that the toxæmia of acute intestinal obstruction is due, in part at least, to the absorption of anaerobic toxins from the damaged bowel. Further, the hypothesis is in complete accordance with the known clinical features, and, if it is true, offers a simple solution to many hitherto unexplained problems.

It also makes clear the remarkable difference between patients suffering from absolute constipation even for weeks, with nothing more serious than lassitude, a furred tongue and a headache, and a patient suffering from acute obstruction of the intestine. In the former there is no material stagnation above the ileo-cæcal valve, and hence there is no formation of B. Welchii toxin. Similarly the complete absence of toxæmia in cases of pyloric obstruction and the almost invariable benefit which results from operative procedure alone, are explained by the fact that in the stomach the anaerobic acid conditions prevent the formation of B. Welchii toxin. Even in pyloric obstruction due to malignant disease, when as a rule hydrochloric acid is absent, the reaction is still usually acid.

In any series of cases of acute obstruction the commonest cause has been, and still is, constriction of the small intestine by bands and adhesions. It is this type which causes the highest relative mortality, and usually occurs after operations in the region of the ileo-cæcal valve. This high mortality coincides with ideal conditions in the small intestine for the proliferation of B. Welchii and the formation of this toxin. Further, the sudden unexpected deaths after successful operative relief of small bowel strangulation may be explained by this hypothesis : the rapid absorption of a lethal dose of toxin from the contents of the obstructed loops after their release would be sufficient to promote the toxæmia.

The striking difference between the gravity of the clinical condition of the patient suffering from the presence of pus in the peritoneal cavity and that of a patient suffering from the presence of pus in another situation, such as the pleura, has long been recognised. The same difference is noticed when there is a localised collection of pus in the abdomen, where the area of contact with the small intestine is small, in contrast with when there is a diffuse peritoneal infection, when the area in contact with small gut is great. Peculiarities of absorption from the peritoneum have been postulated and rejected. More recently the importance of the intestinal stagnation which is associated with peritonitis has been emphasised by many writers, but the nature of the toxæmia has not been investigated. A bacterial hypothesis offers some explanation for these differences, in that the degree of stagnation and consequent production of B. Welchii toxin depends upon the extent of small intestine affected by inflammation.

If the theory of B. Welchii intoxication is in part correct, it may be asked why are not evidences of generalised B. Welchii infections, giving rise to metastatic lesions and the finding of " foaming liver " post-mortem, more common ? " Foaming liver " is a phenomenon resulting from post-mortem changes in a body in which there has been a general dissemination of B. Welchii before death. It is not a very common occurrence in laboratory experiments, and, according to those in a position to observe, was not common in cases of gas gangrene infection during the Great War. It is suggested that it requires very particular conditions for the establishment of B. Welchii infection in living human tissues, the most important probably being an impairment of the blood supply. Further, the organism is ubiquitous in dust, in soil and in milk ; yet in civil practice gas gangrene is extremely rare, even after street accidents, unless there has been great tissue damage. But growth in a hollow viscus, such as the intestine, outside the sphere of the influence of the living tissues, is an entirely different thing. This, under suitable conditions, may occur readily, and absorption of the soluble toxins easily takes place without any invasion of the tissues by the bacillus.

II.—NERVOUS REFLEX THEORY

" Shock may be clinically defined as that condition of diminished metabolism and impaired circulation arising directly as the result of trauma or toxæmia." This definition is given by Zachary Cope writing on acute intestinal obstruction.[11] When a large portion of the bowel is involved, as by a volvulus, reflex shock would seem to play a great part. In these patients the symptoms come on immediately and are not at first to be distinguished from other forms of peritoneal irritation, as, for instance, that caused by a twisted ovarian cyst. There are other cases, *e.g.*, Richter's hernia, in which only a small portion of bowel may be involved, and yet the condition of the bowel rapidly becomes critical. Here, too, reflex shock may play a part. Whenever

the blood supply to the bowel is interfered with, the symptoms are fulminating, and there is early necrosis and perforation. And yet, if the bowel above the seat of the obstruction has not become greatly distended, it is surprising how well some of these patients progress after the injured bowel has been dealt with.

Hence it seems probable that entirely different factors are concerned in those types of obstruction in which there is no interference with the blood supply. Here the symptoms often come on insidiously, and even when a correct diagnosis has been made and any mechanical cause, such as a band, removed, only too often the progress of the case is steadily downhill.

Attempts to divide the nerves running in the mesentery have been unsuccessful owing to their close anatomical relation to the blood vessels. We have therefore no exact knowledge of the part played by these nerves. With the reservations already made, however, it would seem that the weight of evidence suggests that factors other than peritoneal irritation and reflex nervous shock are concerned in the condition of acute intestinal obstruction.

III.—CHEMICAL POISON OR TOXIC THEORY

In the course of 30 years a vast amount of experimental work has been done, chiefly amongst American workers. Their conclusions have been numerous and through the multiplicity of their views the issue at times has rather been clouded than made clearer. However, all are agreed that when the state of acute intestinal obstruction has arisen, then concurrently there are set on foot profound alterations in the body fluids and biochemical substances.

The experimental work has been chiefly performed on dogs and the methods used in producing the obstruction are these. They are—(1) Simple division of the bowel at one place and inverting the two ends; (2) the formation of a closed or isolated loop of bowel on the following principle: the jejunum is divided six inches below the duodeno-jejunal flexure, the lower end closed, the upper end is anastomosed to the side of the jejunum 12 inches further down. About a week later the jejunum is divided just above the site of the previous anastomosis and both ends inverted and closed; (3) The formation of a Pavlov's pouch.

What may be called a chemical theory of toxæmia is based on the following results which have repeatedly occurred. (1) Haden and Orr[12] have found a marked fall in the blood chlorides and a loss of water from the body. It is explained that the above substances are lost from the body in the vomitus. (2) A consequent rise in the carbon dioxide combining power of the blood plasma, which therefore leads to a so-called alkalosis. (3) A rise in the non-protein nitrogen. This last fact is explained in that the body having lost so much water, the blood becomes more concentrated, and so is unable to pass the renal glomeruli, therefore the blood urea rises.[13], [14] Whether this last explanation of the renal dysfunction is correct has not been finally confirmed. But the fact remains that a rise in the non-protein nitrogen of the blood, as estimated by urea determinations, is a very constant feature of cases of obstruction. The therapeutic application of this fact will be referred to later.

Taking all these different facts into account, they are not sufficient to explain the whole story. In fact, in the present state of our knowledge it is the uniform opinion that a point of view which only recognises alterations in the blood chemistry is untenable. Most investigators now agree that the symptoms of obstruction are due to the absorption into the system of poisonous material from the obstructed bowel, and the clinical picture and pathological findings support this view.[15] Recent work has mainly been an endeavour to discover the nature and source of this toxin.

Whipple and Stone[16] laid the foundations of this study. They examined the mucosa of an obstructed portion of intestine. Their material was obtained from a closed loop of intestine and from an enterostomy wound above an obstruction. The fluid obtained when injected intravenously into dogs produced death. But when injected into normal bowel, or given by the mouth, the fluid was innocuous. And when it was injected into a second obstructed loop of the same animal from which the fluid had been obtained, symptoms of toxæmia were not hastened. There was therefore no evidence to show that any toxin contained within the lumen of the bowel could be absorbed. But Whipple persisted and, having satisfied himself that this toxin was not bacterial, analysed the chemical nature of it. He found that it was precipitated by alcohol and by equal parts of a saturated solution of ammonium sulphate. It also gave a positive Biuret reaction. Therefore he concluded the toxin was a primary proteose which had been elaborated by the perverted intestinal mucosa.

The above conclusion of Whipple's has not been generally confirmed, but his work is important for these reasons. His experiments and those of other observers clearly showed that some toxin is contained within the lumen of the bowel.

For the moment the nature of this toxin and the site of its formation may be neglected.

The possible routes by which such a toxin might enter the circulation are through the peritoneal cavity via the lymphatic stream, or directly into the portal blood.

The part played by the lymph stream has to some extent been investigated by Costain,[17] but his results are not altogether conclusive. In fact, assuming this toxin to be soluble in water, as would seem probable, there is no evidence to suppose that, having entered the tissues, it may not pass directly into the blood.

Experiments to determine the presence of toxin in the circulation have been numerous. Thus in 1909 two German workers[18] crossed the circulation of two animals, one of which was suffering from obstruction. They found that both animals were affected. McClean and Stone,[19] on the other hand, injected intravenously large quantities of blood from obstructed dogs into normal animals without any result. This is not altogether surprising, for, if we assume that the toxin passes out of the circulation as soon as it is absorbed, the amount present in the blood at any given moment cannot be very great. Looked at in another way, if an animal, though obstructed, is still alive, there cannot be present in the whole of its blood one lethal dose of toxin for a dog of similar size. Furthermore, the part played by the liver is unknown, so that it would in any case seem wiser to use portal rather than systemic blood.

It is with this feature of the case that recent work has been mostly concerned, and it behoves us to examine this carefully. Sugito,[20] of Japan, published the results of a long series of experiments in which mice were injected intraperitoneally with portal blood from obstructed animals. In a certain number of cases he was able to show that this blood was toxic, while blood from a normal dog had no effect. Systemic blood was shown to be less toxic than portal.

Then B. G. Scholefield,[21] of this hospital, when working in America performed further experiments in support of Sugito's earlier work. His method consisted in injecting mice intraperitoneally with portal blood or serum obtained from dogs with an artificial obstruction of the bowel. Systemic blood or blood from normal dogs was in each case used as a control. Four experiments were completed, and in all of them there was found definite evidence of toxicity in the portal blood. The mice which were injected with the portal blood from the above animals all died in from 15 to 24 hours, whilst there was only one death among 13 control mice. Now, systemic blood from animals with obstruction was found to be without effect. This fact would suggest that the liver takes some action in the removal of the toxin from the circulation. These experiments confirm Sugito's earlier work and show that in the terminal stages at least of intestinal obstruction some abnormal substance enters the portal circulation.

FACTORS CONCERNED IN FORMATION AND ABSORPTION OF THE TOXIN

It may now be concluded that the truth of the toxin theory has been established, and we have to consider what factors are necessary for the formation and absorption of this toxic substance. The most important matter to decide, from the surgical point of view, is the part played by the fluid within the obstructed bowel. At any operation the first essential is to relieve the obstruction. But if it could be proved that the material within the bowel was highly toxic and was being absorbed into the system, then the rational procedure would be to take steps to remove this substance. If, on the other hand, it were shown that this toxic fluid, instead of being absorbed through, had been excreted by the mucosa owing to some perversion of its function, then the alternatives would be either to resect a considerable portion of the bowel or to trust in Nature to restore the bowel to its normal functioning state.

Whether the toxin be formed within the lumen or in the mucosal cells themselves is very hard to answer. Scholefield, in his work on the subject, considers that the toxin is definitely bacterial, probably B. Welchii, but neither he nor any other worker has been able to produce conclusive evidence in any one direction. It is agreed, however, that the factors necessary for this absorption are the presence of a highly disorganised mucosa and increased intra-intestinal pressure.

THERAPEUTIC CONSIDERATIONS

That our present treatment of cases of obstruction is unsatisfactory has been emphasised more than once. The blame has been in part referred to the patient and in part to the general practitioner who fails to send his cases early to the surgeon. While it is agreed that the sooner cases are diagnosed the better for all concerned, it must be admitted that the surgeon is not always confident as to the exact procedure he should adopt. This applies particularly to that group of cases between those in which simple relief of the obstruction is all that is needed and those in which the condition of the patient limits the surgeon to drainage of the most easily available loop of

intestine through a small incision under local anæsthesia.

Importance of Early Operation

Immediate operation is the prime essential, not only because the mortality rises so rapidly with delay (it is repeatedly stated that the rise is approximately 1 per cent. per hour), but also because of the danger of strangulation and perforation.

It is quite true that some surgeons will make an exception to this rule of early operation where the cause of the obstruction is known to be within the bowel itself, as it is argued that in such cases the danger of strangulation is very much less.

Value of Blood Urea Determinations

If operation be postponed a very grave risk is run, and it becomes most important that some indication should be obtained by which the patient's progress may be gauged. The general clinical picture is often deceptive during the first few hours of hospital treatment, and enemata frequently show some slight return which may give the surgeon false hope.

Now it has been pointed out that many observers have noticed a rise in the non-protein nitrogen of the blood in animals with acute obstruction. Clinically there are some authorities who affirm that it is not very uncommon for a mistaken diagnosis of uræmia to be made in cases of obstruction brought moribund to the hospital.

A high blood urea at the time of admission would be a strong indication, if any be needed, for an immediate operation. Also, a rising blood urea in samples taken every six hours in cases of advancing obstruction would be evidence that the condition was not improving.

Value of Saline Solution

The fall in chlorides in the blood plasma has been mentioned previously. Haden and Orr emphasise the value of saline solution in treating patients, and recommend the use of hypertonic solutions both intravenously and into the bowel. Also Gatch, Trusler and Ayres,"[13] working on the same subject, strongly advise the addition of small quantities of ammonium chloride to any fluid introduced, to assist in making up the chloride loss. The importance of fluid has long been recognised, and there are few people nowadays who do not realise the necessity of giving it by every available orifice.

Advisability of Resection

Turning now to the question of operative procedure, the occurrence of toxin absorption from the obstructed bowel would suggest the advisability of resection whenever possible. As has been said already, there are early cases where simple relief is clearly all that is necessary, and very late cases where resection is out of the question. It is the intermediate cases which offer the most difficult problem to the surgeon. When a considerable portion of the intestines is moderately or greatly distended, resection is again impossible, but when the damage is limited to a comparatively small length of bowel and the surgeon is doubtful whether to remove it, or to drain it, or to leave it alone, experimental evidence would suggest the advisability of resection. In this connection the following figures quoted from Perthes[22] are of interest :—

		Per cent.
Mortality :	(1) Simple relief of obstruction	21
	(2) Relief plus drainage	56
(100 cases)	(3) Resection plus drainage	56
	Total mortality, all cases	36

It will be seen that where drainage of the bowel is considered, resection does not add to the mortality. And if, as would seem probable, the cases coming in the second group were earlier than those in the third, these figures would point in favour of resection.

The Removal of Toxic Material

Next there is the vexed question as to what steps should be taken with regard to the intestinal contents. Moynihan[23] recommends the use of a long tube which is inserted through a small hole in the bowel, and to which suction is applied. Removal of the intestinal contents in itself can do no harm, and may do good, but it is felt that the trauma inflicted on the bowel outweighs the still unproven benefit which may follow this manœuvre.

On the other hand, it has been shown previously that the peritoneal exudate is toxic, and absorption here occurs very readily. Therefore removal of any free fluid in the pelvis is to be advised, during the operation.

The Administration of Specific Serum

The bacterial theory of the toxæmia has been described elsewhere and the results at St. Thomas's Hospital of giving anti-gas gangrene serum noted. It is to be hoped that this avenue will be explored further, as no other method has been suggested for building up a specific resistance to the toxin of acute obstruction.

CONCLUSIONS

1. The similarity between the clinical appearance of acute intestinal obstruction, general peritonitis and gas gangrene are noted.

2. The various theories for the toxæmia are described.

3. In the case of the bacterial theory certain statistics are given, which include an attempt to record the general mortality from acute obstruction at this hospital.

4. Certain therapeutic observations are made.

That, gentlemen, brings me to the end of my subject. I have attempted to put forward the various theories and experiments to account for the symptoms of the toxæmia of intestinal obstruction and to indicate the trend of modern opinion. In doing so I hope I have not confused the issue. Omissions have, of necessity, been numerous, but I hope the meeting will discover some points of interest which will arouse discussion. In conclusion, I should like to thank Mr. Ogilvie for permission to examine the hospital reports, and Mr. Ferguson for invaluable assistance with the literature of this subject.

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Fixed Bridgework

A Paper read before the Dental Society, Guy's Hospital, by C. I. Hagger, Esq., on November 13th, 1933

MR. PRESIDENT and GENTLEMEN,—It was with some trepidation that I chose this controversial and very extensive subject, but I was urged to do so by its neglected potentialities and the unwarranted disfavour it has received in this country.

The abutments used in bridgework may be divided into two groups :—

1. Those on live teeth.
2. Those on dead teeth.

The most widely used abutment of the former group is the three-quarter crown, which has displaced the old unsatisfactory gold shell crown.

Consider the technique for a preparation on an anterior tooth. The enamel is removed from the lingual surface with an ordinary flat stone on a mandrel or small mounted wheel. The enamel on the approximal surfaces is then removed with lightening discs, followed by thin carborundum wheels. In the case of anterior teeth care should be taken to see that the stone does not encroach on the labial surfaces at all, so that the gold of the crown would be visible.

The shoulder is then outlined with knife-edge stones or inverted-cone stones, and the pulpal wall smoothed off with the necessary converging bevel with parallel stones, or, as some people prefer, with a straight fissure burr. The incisal groove is cut with knife-edge stones, and the approximal grooves with thin tapering fissure burrs. It is important, of course, that all these surfaces should be cut, so that the impression will slide off vertically, and the edges should be bevelled slightly. This preparation can be modified, and the shoulder replaced by just bevelling the walls to the gum margin with discs and stones, the advantage being that only the surface layer of the tooth is removed and the pulp cannot possibly be affected. However, the accurate adaption of the cast gold is rather more difficult.

The three-quarter crown on premolars is similar, except that the antero-posterior fissure is replaced by a groove and the lingual cusp is

stripped of enamel and coned up. This forms a very useful and strong abutment for replacing 1st premolars.

A three-quarter crown can also be cut on a molar similar to one on a premolar. Its particular advantage is that the deep cutting necessary in meso-occlusal inlays is avoided.

Inlays can often be made suitable abutments for bridges, but the deep cutting necessary is only warranted when the tooth is already carious, when the pulp is saved from excessive stimulation by Fish's dead track.

All the walls should be strong, and the retention adequate, weak cusps being stoned off and included in the inlay. Pits may be used to supplement the retention. M.O.D. inlays are usually preferable, though more simple inlays are suitable to rest the spur of fixed-movable bridges.

A useful type of abutment for molar teeth which are not carious is made by combining an occlusal inlay with a peripheral band, and is cast in one. The fissures are taken out and the mesial approximal surface sliced. The buccal and lingual fissures can be made to join the peripheral band if added strength is required. The band, which extends over the approximal, buccal and lingual surfaces, is carried to the gum margin approximally and bevelled flush with the tooth.

It is worth while pausing to point out that this type of abutment and the three-quarter crown are so superficial that little or no disturbance of the pulp results from their preparation, and that, far from the life of the tooth being endangered, it is enhanced by Black's danger areas being eliminated, rendering the tooth almost immune to caries. Any exposed dentine should, however, be swabbed with phenol.

The pinledge attachment or pinlay provides an alternative abutment for vital anterior teeth. The preparation is similar to that of the three-quarter crown, only instead of grooves, three pits sunk on the lingual surface in parallel act as retention. They are so placed to avoid the pulp.

In taking the composition impression, the platinum pins are put into the pits and the ends are bent over slightly. The impression is then obtained in a nickel ring with the pins set in the composition. The pins are then coated with sandrac varnish before packing in amalgam.

Where dead teeth are used as abutments, an inlay with a post in the root canal gives all the retention required.

Crowns serve as excellent abutments for bridges. They may be the ordinary Steele's facing, diaphragm and post crown or, when added strength is required, a modification of the Richmond crown. This has a crescentic collar soldered to the diaphragm, and fitting half-way round the root on the lingual side, thus taking the strain of the bite. The damage to the gum associated with the Richmond crown is eliminated in this preparation. Porcelain jacket crowns can also be used as abutments.

In choosing abutment teeth, loose teeth must be avoided, and only those with sound, healthy, periodontal attachments should be selected.

Malpositioned teeth should be avoided if possible, such as premolars or molars tipped mesially and lower molars tipped lingually. Radiographs are helpful in such a choice, as the length and shape of the roots will indicate the strength of the abutment. The presence of signs of infection of the alveolar bone will also affect one's decision. It is not necessary to diverge into the vexed subject of the retention of dead teeth, but something must be said regarding their relation to bridgework.

It is the *periodontal membrane* which is going to bear the stress, and therefore so long as that remains healthy a dead tooth is as good as any other tooth. Radiographs taken after several years *do* show normal periodontal membranes in many properly treated teeth, and we must not be deceived by the gross results we see at hospital, though admittedly there is always a chance of development of periodontal disease. This chance is increased by faulty technique, resulting in inefficient dressing of the root canal and traumatic occlusion. The conclusion to be drawn would seem to be that teeth with apical areas, or periodontal symptoms, or those in which the pulp has putrified before removal are definitely contra-indicated as abutments for bridges. Generally the use of pulpless teeth should be avoided where other abutments are available, but their use is justified in suitable cases.

The scope of this paper will only permit the description of *some* of the simpler types of bridges. The technique for the construction of a simple fixed-movable bridge, such as one to replace an upper incisor, is briefly this :—

The abutments are prepared and fitted in the mouth, and while they are in position a plaster impression is taken. When the impression is removed the abutments are fitted into their correct position in it. Their deep surface is then coated with whitening (and it is important to see that this is well done, or difficulty will arise later).

Plastercene is then used to isolate the impression of the gap and adjacent teeth and fusible metal is poured into it. When this has set, the plastercene is removed and the rest of the model cast in plaster. A good working model is thereby

obtained, which will not be rubbed or spoilt during manipulation. A lower impression of the occlusal surfaces of the teeth is taken in composition and a wax squash-bite on the opposite side to the bridge.

An alternative method of obtaining working models, though not so certain, is quicker. The abutment teeth are suitably prepared and impressions for amalgam models are taken with composition and nickel rings. A core of inlay wax is then pressed over each of these abutment preparations and a plaster impression taken over the whole, which is removed with the wax cores. The amalgam models when prepared are pressed into position in the wax cores and the plaster model is thus obtained with the amalgam models in their correct relationship, from which abutments and bridge can be built.

Using this method it would be possible to insert the bridge at the second visit were it necessary, though it is not advisable.

With the models prepared and the abutments in position, the selected tooth is fitted by the necessary grinding. A piece of platinised gold wire is countersunk into one abutment to act as a spur, and this, together with the dummy tooth, is fixed to the other abutment with hard wax in their correct positions.

It is advisable to try the bridge in the mouth at this stage, and make any slight adjustments that are necessary. The tooth facing is then removed from the backing and the bridge is invested and soldered.

These practical points should be noted :—

1. See that the facing *will* slide off before waxing up.

2. It is best to use Kerr's graphite mixture for investing, otherwise warping usually occurs.

3. Care should be exercised in soldering, and the flow of the solder limited by whitening. Only a small area of attachment to the abutment is needed, in the region of the contact point.

4. It is preferable to gild the bridge after soldering to avoid discolouration of the solder in the mouth.

In the case of replacing cheek teeth it is essential that the occlusal and lingual surfaces be built out to their proper contour in inlay wax; also that the contact points and interdental spaces be as near the normal as is possible.

Functional occlusion and normal contour are the secret of cleanliness in bridges. Nature has designed the teeth in a specific way, in order to obtain the maximum functional results and the maximum cleanliness, accompanied by harmony and co-ordination with the adjacent structures. It is therefore either arrogance or ignorance on our part if we neglect to copy the normal contours wherever possible. Thus the curves and convexities of the embrasures between teeth, the lingual and buccal surfaces, the position of the contact points, and the occlusal contours should be closely followed in all conservative work.

It is on this same principle that one asserts that under normal conditions for a single-tooth gap the bridge is the ideal restoration, *i.e.*, it can be made to correspond the most accurately to the normal anatomical conditions.

In the molar region it is always best, where æsthetic conditions permit, to let the bridge be a simple gold bar, contoured on the occlusal surface and convex on the under surface, and sufficiently thick to ensure strength. It can either be fixed to one abutment (such as an M.O.D. in a seven) and rest on the other abutment by a spur, or it can be fixed to both.

Practical points in its construction are :—

1. If it is fixed to both abutments great care must be taken to get the cavity preparations in parallel.

2. The occlusal contour can be obtained perfectly by pressing the inlay wax into an impression of a suitable porcelain diatoric.

3. It is wise to spare no trouble in getting the occlusion correct in the wax stage, or much extra work may afterwards result.

4. If it is an M.O.D. abutment do not try to save gold, as a thick strong span is necessary.

This type of bridge is exceedingly useful and satisfactory in every way, as I shall endeavour to prove later.

The completely fixed bridge should not be used in the canine region, where the normal movements of the abutment teeth are in different directions, but when the teeth have similar movements, and there is harmonious occlusal relations, it is permissible.

The fixed-movable bridge is usually preferable, however, as each abutment tooth is not affected by the movement of the other.

Steele's "trupontic" teeth are excellent for bridgework, and help the operator considerably in forming perfect contours. The glazed porcelain which rests on the gum causes no damage, and transmits some of the stress to the underlying alveolus. If the porcelain is ground, it must be re-glazed.

Where the anterior teeth are spaced, and one is required to be replaced, an excellent type of bridge can be constructed in which the attachment of the pontic consists of two pieces 16-gauge round gold wire, bent to fit closely to the gum and attached to three-quarter crowns on the adjacent teeth.

Removable bridgework is a branch which cannot be included in a paper of this size, but has very definite uses in dentistry. It is indicated to replace large spaces in the arch, and has the advantages of being removable for cleaning purposes and at night for resting the abutments.

Traumatic occlusion has done more to bring disfavour on bridgework than anything else, and one cannot stress too much the importance of obtaining harmonious occlusal relations in all positions of the jaw with all bridges.

The occlusion of the teeth should be studied before the bridge is planned, and if there is a heavy traumatic bite on the abutment teeth which cannot be properly relieved, the bridge should not be attempted.

It is wise, in the construction of posterior bridges with a large occlusal surface, to set the models up on an anatomical articulator, or, if this is not done, the bridge must be ground in the mouth.

It should be obvious that the continual damage of a traumatic bite to the periodontal attachments of the abutments will inevitably cause the downfall of the best bridge sooner or later.

A consideration of some of the advantages and disadvantages of bridges may now be in place. From an æsthetic point of view the bridge leaves little to be desired, and the gold of the abutments can always be concealed.

No one will deny that the bridge outclasses the denture in every way for comfort, and this is an important advantage because the sense of security gained by the patient has a profound mental effect. A patient is never happy with an upper denture that is capable of dropping, or with a lower denture that becomes mixed up with the tongue, and what is more embarrassing than raspberry pips or food under a plate?

With regard to function, a bridge has four times the masticatory power of a plate, if it is properly constructed. Two patients have told me of the immediate sense of gain in masticatory power on the insertion of a lower molar bridge. It is a practical fact that, in many cases when there is a gap in either jaw in the molar region, patients will unconsciously chew on the other side, so that by inserting a bridge one puts all the cheek teeth on that side into action again, thus preventing early loss of the remaining teeth—on the one side through disuse, and on the other side through a traumatic bite, added to which are all the other advantages of perfect mastication.

This may seem an exaggeration, but unbiased practical observation will give the proof, the principle being that if one part of the arch is deranged the whole mechanism is adversely affected, and other secondary defects arise in consequence.

Consider once again the space left in the lower arch by the removal of the six-year molar. The contact points form an important support for each tooth in the arch, and such a loss leaves not only the adjacent teeth completely unsupported on one side, but affects the pressure of the teeth against each other throughout the arch. In the one case, tilting and pocketing, as all at some time or other must have observed, and in the second case food packing and its sequelæ, are the outcome.

The extra stress imposed on the abutment teeth by a single tooth bridge in this situation consists of the vertical and slightly lateral load borne by the dummy teeth, divided between two abutments. The periodontal membrane is quite capable of adjusting itself to these requirements in the same way as a muscle does when given extra work. Added to this, the abutments are supported by the restoration of contact points, whereas if the gap is left the adjacent teeth still bear extra stress without that support.

It must be remembered that stress on the alveolus is one of tension, not of pressure, provided the tooth is kept in its proper alignment by the contact points. A traumatic bite, however, is a very different matter, and will cause injury and disease to the periodontal membrane.

A properly constructed bridge should be capable of remaining quite clean and free from stagnation. Perfect edges to the abutments in Black's self-cleansing areas and the restoration of normal contours, of which I have spoken, are necessary for cleanliness. The patient is instructed to use a mouth-wash and to force it with the cheeks between the teeth; also to use floss silk in certain cases. The gold bar bridge described is cleansed naturally by the tongue and cheeks.

It is only the bad workmanship, unhygienic designs, and unsuitable choice of bridge cases by unscrupulous operators which has brought the ill-deserved stigma of uncleanliness on bridgework.

The contra-indications of bridgework are :—

1. Patients with temperaments unsuited to the necessary operative procedures.

2. In cases where several teeth are missing in different parts of the arch.

3. Where the gap is more than one or two teeth.

4. Where the general oral conditions are bad.

5. When the abutments are not healthy.

6. In the anterior part of the mouth, where there is a heavy traumatic overbite.

In conclusion, Gentlemen, I would emphasise again the three guiding principles for the bridge-worker :—

1. Endeavour to restore the normal conditions.
2. Avoid traumatic occlusion.
3. Nothing but perfect workmanship is good enough.

In support of the last statement a quotation from Doxtater's book is not out of place. He says :—

" The success of an intricate mechanical procedure is dependent on techniques, which are capable of giving results of precision and of devising a correct sequence of steps, each of which shall, in itself, be precise. If at any point in a series of steps a mechanical error creeps in, either through the shortcomings of the operator or because of inherent faults in the process, this error is perpetuated and usually magnified in succeeding steps."

Bridgework offers a dental surgeon scope for his engineering, artistic, operative and mechanical abilities, and I hope I have proven to you that it is a means of rendering better dental service to your patients.

The Relative Value of the Hospital Appointments as seen through the Eyes of a G.P.

By G. Nesbitt Wood, Esq.

FOUR years in General Practice is perhaps long enough to get a true estimate of the relative value of the various appointments which one holds as a student and yet is not so long that one has forgotten the details of those appointments. In the next few lines I expect to do two things : expose some cherished illusions and fetch a hornets' nest about my ears. However, fully realising that my classification probably does not agree with anyone else's, I give the following orders of value, the first being a table of student appointments and the second a list of House jobs:—

A

Skin Department.
Children.
Gynæcological dresser.
Extern.
First three months medical ward clerk.
Junior dresser.
Surgical ward clerk.
Second three months medical ward clerk.
Ear, Nose and Throat dresser.
Orthopædic dresser.
Senior dresser.
Eyes, Genito-Urinary, Nerves, V.D. Department—equal.

B

Out-Patient Officer.
Resident Obstetrician.
Assistant House Surgeon.
Skin and Nerves H.P.
Baby H.P.
House Physician.
House Surgeon.
Ear, Nose and Throat H.S., Orthopædic H.S., Ophthalmic H.S.—equal.

It would be difficult to lump these two tables together, as a House job, however strictly specialised, carries with it the benefit of some responsibility, which a student appointment does not. However, Out-Patient Officer would come an easy first if one did.

" What ! " I hear someone say. " Senior dresser and H.S. nearer the bottom than the top of their lists ? " Undoubtedly. Jolly and spectacular as these appointments are, I'm afraid their value to the would-be G.P. is small. The amount of work he will get assisting at enormous operations is very little, and in any case he will have lost that dexterity with the Spencer Wells by the time he gets settled and will have to acquire it again. If he is lucky enough to have patients who have big operations done in private—well, the nurses will do the dressings. Yes, all those hours spent irrigating vast septic wounds will not give much return, nor will that skill at shaving and compressing be much in demand.

Instead, one is left doing a combination of O.P.O., Out-Patients and Front Surgery (with the interesting stuff like fractures taken by the police direct to the local hospital), and then that lack of knowledge of rashes and spots begins to tell. You can't get rid of them by means of a " P.R.D." card either. Anæsthetics, especially the short ones like ethyl chloride and gas, are mighty useful, as there is sure to be a good deal of minor stuff like carbuncles, septic fingers, and dental work going, and if you go into a partnership where there is a surgeon and can produce the other tricks of the trade so much the better.

If one could separate the appointments into their constituent parts, I think I should put them down like this :—

Front Surgery—Junior dresser, Senior dresser.
Skin Out-Patients.
Children's Out-Patients.
Surgical, Medical, Tuberculosis—Out-Patients.
Extern.
Gynæcological Out-Patients.
Psychological Out-Patients.
Surgical and Medical Rounds—equal in value.
Orthopædic Out-Patients.
Anæsthetics.
Ear, Nose and Throat and Neurological Out-Patients—equal in value.
Genito-Urinary Out-Patients.
Eye Out-Patients.
Back Surgery dressings.
Ear, Nose and Throat Theatre work.
Gynæcological Theatre work.
General Surgery Theatre work.
Ward dressings.
Orthopædic and Genito-Urinary Theatre work—equal in value.
Eye Theatre work.

Of course, I must add at this point that this is not a list of appointments in the order in which a student is of most service to others. In such a list the ward clerk and his trolley and the senior dresser with his kidney dishes would come very near the top. Alas! but I find my skill at extricating trolley wheels from lift cracks of small service to me now.

For myself I confess that I went off to my first "locum" after finishing House jobs imagining that General Practice was a succession of gastric ulcers, pernicious anæmias, and fine abdominal emergencies, little realising that the stuff in the wards was the cream of innumerable practices. A sobering thought, my masters, but the nearest most of us get to putting our hands inside those abdomens is telephoning to the local hospital and hearing a groan of "Another acute obstruction" from somebody who is still thinking as we once did.

Perhaps I should hasten to say that the relative value of these appointments is doubtless much altered in the case of those few who go straight on to specialise, but even in this respect I recall a surgical member of the Staff saying to me, "I always advise a man to be an H.P. rather than an H.S. If your're going to be a surgeon you won't learn enough to put you much further on your way, and if you're not it's a waste of time."

Perhaps in the light of this rather heretical utterance we may also review other appointments.

Correspondence

An Additional Rugby XV.

To the Editor of the GAZETTE

SIR,—As I have been led to understand that there are several students anxious to play Rugby football who have not been able to obtain a regular place in the existing teams, I shall be glad to meet all interested in Classroom III on Thursday, December 14th, at 12 noon, with a view to exploring the possibilities of forming an additional XV.

Yours, etc.,
N. ECKHOFF,
Hon. Sec., Clubs' Union.

Guy's Hospital,
S.E.1.

The Anti-Noise Movement

To the Editor of the GAZETTE

SIR,—In your last issue Mr. Layton points out the advisability of subduing the students' heavy tread with rubber soles. Dare the laryngeal pot damn the tarsal kettle for its blackness? How about a regulation enforcing an audible minimum on the spoken word? Or a silencer?

Yours, etc.,
"PECTORILOQUY."

Guy's Hospital,
S.E.1.

Visits to Scandinavian Clinics

To the Editor of the GAZETTE

SIR,—I should like to add a note to the interesting account Mr. Eckhoff has given you concerning his visit to the surgical clinics of Stockholm and Copenhagen. I have no doubt that these most attractive cities will prove just as interesting to physicians as to surgeons. Professor Holmgren and Professor Jacobæus are in charge at the Serafima Lazaret in Stockholm. The former is an all-round physician, whose wide experience in every branch of clinical medicine makes a visit to his wards most attractive.

Professor Jacobæus is world-famous for the revolutionary methods of treatment of pulmonary conditions which he has made possible by his invention of the thoracoscope. He shows very admirably how a physician can do a great deal of work in his speciality which is often regarded as surgical to the great advantage of his patients, his methods of treating intrapleural adhesions by means of the diathermy cautery being only one of many examples of this.

Stockholm is one of the greatest centres in the world for radiology, and the work of Professor Forssell and Dr. Akerlund has revolutionised our methods of investigating gastro-intestinal disorders with the X-rays.

In Copenhagen Professor Knud Faber interests himself specially in gastro-intestinal disorders and anæmias, his work on gastritis being of fundamental importance. Dr. Meulengracht at the Bispebjerg Hospital has probably the largest hæmatological clinic in Europe under his control, and anybody interested in the subject can spend a most profitable time visiting his wards, out-patient department and laboratories.

I can confirm all that Mr. Eckhoff has said about the warm welcome English visitors receive at the clinics of both of these cities.

Yours, etc.,

A. F. HURST.

New Lodge Clinic,
Windsor Forest,
Berks.

Reviews

Medicine for Dental Students. By Members of the Teaching Staff of King's College Hospital Medical and Dental Schools. Edited to H. A. LUCAS, King's College Hospital Medical School. 206 pages. Published by Messrs. E. & S. Livingstone, Ltd., Edinburgh. *Price* 7*s.* 6*d.*

ALTHOUGH it must be a considerable time ago since the subject of medicine was seriously thought to be one of importance in the dental students' curriculum, he has had to wait for the extra stimulus of the recent inauguration of an actual examination in medicine for the L.D.S. Eng. to produce the first book which provides him with a simple cataloguing of the essentials of medicine from the dental standpoint.

This book is set out methodically, the more important headings being block type, and provided with an efficient index of some 500 entries. No subject is dealt with to any great depth, the two opening chapters on Infection and immunity, and General Metabolism and Deficiency Diseases, are less brief than the nine which follow, where all the remaining diseases of importance to the dental practitioner are dealt with in 150 pages. It should prove to be a popular little book to provide a good foundation to a knowledge of medicine, and valuable especially when used in conjunction with a larger work. One feels that in these days when so large a percentage of the public pay regular visits to their dental adviser, a greater knowledge of the causes of their general bodily conditions of which they so frequently complain to him in confidence should be acquired, for it is only with this knowledge that the dental practitioner can convince his patients of the importance of further investigating these conditions with their doctors.

Plant Biology. By H. GODWIN, M.A. Published by Cambridge University Press. *Price* 8*s.* 6*d.*

NO recent elementary text-book deserves more recommendation than this little book on plant activity and structure. A full discussion of the physiological processes of the plant is the important feature of the book, but the account of the elements of plant structure is no less adequate. The lower types are carefully considered in their significant detail, while of the higher plants there is a chapter each on the root, stem and leaf. No description of the flower is included, and is not needed, since excellent accounts of this part of the flower are to be found in varying detail in other botanical text-books.

Dr. Godwin's book is as admirable an introduction to the study of plants as can be required. There is no excess of detail and no difficulty in reading, and the book leaves one well acquainted with the elements of plant life. 1st M.B. and Pre-Medical students will both find this book the best—and a most agreeable—stand-by in what they tend to regard as a dull and irrelevant part of their course.

W. E. Y.

Sport

Rugby

Guy's v. An Army XV.

AT Honor Oak Park on Saturday, November 26th, the Hospital were successful after a very interesting and exciting game by 2 placed goals and 3 tries (19 points) to 3 goals (1 dropped) and a try (17 points).

Originally Guy's had arranged to play the return fixture with Bath, but unfortunately, owing to an oversight, our opponents arranged two fixtures for the same day and were unable to fulfil their engagements. However, the Army very kindly came to the rescue and sent a representative side who gave the Hospital one of the hardest and most enjoyable games this season. It was a nice open game from start to finish, and the excitement ran high towards the end when Guy's gradually wiped out their deficit and in the final minute Wright gave the Hospital the victory with a splendid try in the corner.

The Army more than held their own until just after the interval, and then the Hospital played inspired football and carried out some admirably executed movements at top speed, which left their opponents standing.

Although they were led by Lieut. Kendrew, the visiting forwards were not so well together as the Hospital pack, whose good scrummaging gave Bowles plenty of opportunities to supply his backs with an excellent service. However, Simpson, the Army scrum half, kept a careful watch and did many clever things during the game.

The three-quarters gave an admirable display of rapid and accurate passing at top speed—Thomas was back to his form of last season, whilst Wright and Giesen were outstanding. Lindsey, who was tried at full-back in place of Clegg, never put a foot wrong; his tackling was sure and his kicking was particularly strong—not once did he fail to find touch.

For the first ten minutes the game was played in a rain-storm, and during this period the Army, thanks to some fine work by their forwards, scored twice without response. First of all Tredea followed up in the loose and touched down in an easy position, but Kendrew failed to convert. Soon afterwards Unwin raced down the right wing and scored behind the posts for Kendrew to add the goal points. Following this reverse Guy's woke up and immediately set about reducing the arrears and, after an excellent movement in which all the backs participated, Wright dashed over near the posts, but Hogbin missed an easy conversion.

Guy's continued to press, and Johnson was only tackled in the corner, whilst Giesen, after a magnificent run, passed to Alexander, who just failed to hold a greasy ball. A third attack was more successful, and some perfect combination between Thomas and Alexander resulted in Hogbin crossing for a try, which he converted.

The Army replied with another fine individual effort by Unwin, who evaded all attempts to tackle him and registered his second try, to which Kendrew added the goal points.

Soon after the interval Simpson increased their lead when he dropped a neat goal following a splendid dribble by their forwards.

From now onwards Guy's took command, and some extremely clever passing was seen in which Giesen and Alexander were excellent. One of their efforts gave Alexander his favourite opening, and he was through the defence in a flash. Although he was tackled on the line, he touched down for Hogbin to add the goal points.

The next score came when Wright picked up a kick ahead by Thomas and, running strongly, was over the line before anybody could stop him, but Hogbin disappointed the Guy's supporters by slicing his kick. With only a point difference in the scores Guy's made desperate efforts to secure the advantage, and in the last minute of the game Wright made one of his characteristic runs and scored in the corner, after several attempts had been made to bring him down.

It was a splendid game, well contested by both sides and thrilling throughout.

Team.—M. J. Lindsey; C. G. Wright, P. C. Alexander, J. E. Giesen (Capt.), A. G. Johnson; I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, R. J. Drummond, R. A. P. Hogbin, T. Morgan, D. M. Leeming.

Association

Guy's v Emmanuel College, Cambridge

ON Wednesday, 8th November, Guy's journeyed to Cambridge to play Emmanuel College, whom they defeated by 8 goals to 2—the highest score this season.

In the early part of the game the backs were frequently found out of position and Stoneham had several anxious minutes. The attack, too,

seemed unable to get moving. After 20 minutes' play, however, Sprigings sent in a hard shot, which the goalie just managed to stop, but James, following up, bundled man and ball into the net to put us one up. Practically immediately, Emmanuel replied, and this seemed to act as a spur to Guy's, for they attacked vigorously on both wings. From a corner on the right James got his head to the ball and scored a really fine goal, to put Guy's ahead again.

Thompson held up a dangerous attack on the right, but Emmanuel levelled the scores with a weak ground shot which trickled into the net; Stoneham expected it to go outside. Just before half-time Rees broke through and drove hard to the upright, and James scored on the rebound.

After the interval Guy's completely dominated the game, and goals were added by James, Harvey, Marshall and Sprigings, and another went in off a defender. Not one of our best matches.

Result.—Won, 8—2.

Team.—F. J. Stoneham; D. W. Bugg, D. A. Priestley; R. C. Jackson, S. E. Osborne, J. Thomson; L. E. Marshall, R. W. Harvey, G. James, G. G. Rees, G. C. Sprigings.

Guy's v. Old Cholmelians

ON Saturday, November 18th, Guy's played the Old Cholmelians at Honor Oak Park, and were successful in winning by 4 goals to 1.

Whereas earlier in the season we beat them in most convincing style, Saturday's game was a poor reflection on the form shown previously. The forwards lacked thrust, relying on short passing movements which, on a wet pitch and with a greasy ball, only got them into difficulties.

The half-backs had no real understanding with the forwards, and failed to follow the ball up, so that a wide gap was left in the centre.

The backs played a sounder game, although preferring on many occasions to put the ball into touch rather than endeavour to find their forwards.

James opened the scoring late in the first half, and this was followed by another goal from Jones-Lewis. The O.C.'s speedily reduced the score, however, by running completely through the defence and scoring from the centre K.O.

In the second half the Hospital were completely overrun and had it not been for Stoneham's splendid goalkeeping we must have lost heavily. Towards the end the Hospital scored through James and again through Rees.

The Hospital have been falling off for some weeks past, and it is to be hoped that a return to the excellent form shown at the commencement of the season will soon be in evidence.

Result.—Won, 4—1.

Team.—F. J. Stoneham; D. W. Bugg, G. M. Johnson; J. Thomson, A. M. Marley, R. L. V. Henderson; J. Patterson, R. W. Harvey, G. James, G. G. Rees, H. Jones-Lewis.

Hockey

Guy's v. Reading University

AT Reading on Wednesday, November 22nd, the Hospital were unfortunately deprived of the services of their captain and two others of the 1st XI.

The game opened with an attack by the opponents which was successfully repelled, and Guy's took the offensive, but here further misfortune awaited them, as Elliott was struck very hard on his ankle by the ball and was forced to leave the field for the rest of the game.

Play remained very even for the remainder of the first half, but Reading managed to obtain a goal and thus led 1—0 at the interval.

In the second half Guy's pressed strongly and the University backs had difficulty in coping with the visitors' depleted forward line, and after about a quarter of an hour Guy's equalised, a clever pass from Archer enabling Rowe to score a good goal.

The Hospital continued to attack hard, and it seemed as if they had the upper hand, but some mistakes on the part of their backs enabled Reading to break through and score twice in the last ten minutes of the game, and thus they retained their unbeaten record up to date this season.

Result.—Guy's, 1; Reading University, 3.

Team.—H. V. Brown; D. P. King, A. C. Greene; A. E. Loden, R. J. Archer, R. C. Hill; J. E. Elliott, K. R. D. Porter, L. N. Trethowan, E. B. Rowe, J. B. Franklin.

Guy's v. Sevenoaks

ON Saturday, November 25th, Guy's visited Sevenoaks, and, although not at full strength, gave the home side a good game, which the latter won by 4 goals to nil.

Intermittent hail-storms, at times so severe that it was almost impossible to see, made conditions unfavourable. The ground became soft, slippery and white enough to cause both sides difficulty in following the ball.

Guy's played well in the first half, their forwards looking distinctly dangerous on several occasions, and when in the circle they all but scored.

Exchanges were very even, each side attacking in turn, and it was some time before the Sevenoaks' forwards concluded a good passing movement by scoring a goal.

Half-time was called with Sevenoaks one goal up.

Most of the players' hands were numbed with cold, the ground became more slippery, and it hailed with great force so that good hockey was almost impossible. Franklin always managed to get through on the left wing, and had it not been for good tackling by the Sevenoaks backs, he would have scored at least once.

Archer at centre-half, after rather a shaky start, improved considerably, and later did some very good work, just managing to get there first on many vital occasions.

Greene and Thorne were on the whole reliable as the backs, and Brown made some good saves in goal. Before the end Sevenoaks had scored again, and the result was a win to the slightly better side.

Team.—H. V. Brown; A. C. Greene, T. C. Thorne; A. E. Loden, R. G. Archer, L. A. Quick; J. B. Franklin, E. B. Rowe, G. O. Jelly, K. R. D. Porter, J. S. W. Dryland.

Golf

Semi-Final Round Inter-Hospital Cup

Guy's v. St. Thomas's

THIS match was played at West Hill on Friday, November 10th. Guy's were at last successful, as it is many years since they have beaten St. Thomas's in a Cup Tie. Foursomes were played in the morning and left an open issue, both sides winning one match and halving two. Weighell and Elstob did well to halve with Harper and Simmonds, a very strong combination. In the Singles Guy's were definitely superior, winning five matches and halving one. Thus Guy's won the Tie by 7½ matches to 4½.

FOURSOMES

Guy's		*St. Thomas's*	
H. C. A. Weighell C. B. Elstob	½	E. H. C. Harper F. A. Simmonds	½
B. J. Doran H. B. Thornton	½	L. C. Taylor B. E. Blair	½

P. Hanbury A. L. Young (3 & 1)	1	J. Marriage M. R. Gardner	0
W. C. Kendrick F. I. Evans	0	C. H. B. Bartlett P. J. W. Milligan (2 & 1)	1
Total	2	Total	2

SINGLES

Guy's		*St. Thomas's*	
P. Hanbury (4 & 3)	1	E. H. C. Harper	0
H. C. A. Weighell	0	F. A. Simmonds (4 & 2)	1
C. B. Elstob (2 & 1)	1	L. G. Taylor	0
H. B. Thornton (5 & 3)	1	C. H. B. Bartlett	0
A. L. Young	½	B. E. Blair	½
W. C. Kendrick	0	J. Marriage (5 & 4)	1
B. J. Doran (7 & 6)	1	R. R. Gardner	0
F. I. Evans (2 & 1)	1	P. S. W. Milligan	0
Total	5½	Total	2½

Guy's v. Capt. E. G. Waley's Team

THIS match was played at Bletchworth on Sunday, October 29th, and resulted in a win for the Hospital by 7 points to 5. Our sincere thanks are due to Captain Waley, one of the Governors of the Hospital, for giving us all such a very pleasant day, and for providing us with some much-needed match practice for the Cup-Ties. The match was played on level terms, and, although most of the Guy's men had handicaps lower than their opponents, they had to work very hard indeed for their victory.

FOURSOMES

Capt. Waley's Team		*Guy's*	
C. Bowley H. W. F. Couchman (3 & 1)	1	H. C. A. Weighell C. B. Elstob	0
R. Johnson O. E. Evans	0	T. Drybrough-Smith A. L. Young (1 up)	1
Capt. E. G. Waley B. Monier-Williams	½	H. Cameron Wm. M. Evans	½
N. M. Waller S. G. Morrison	0	C. L. Blacklock D. O. Stevenson (4 & 2)	1
Total	1½	Total	2½

SINGLES

C. Bowley	0	H. C. A. Weighell (4 & 3)	1
R. Johnson	½	C. B. Elstob	½
H. W. F. Couchman	0	M. N. Evans (1 up)	1
H. B. Thornton (6 & 5)	1	A. L. Young	0
O. E. Evans (1 up)	1	T. Drybrough-Smith	0

B. Monier-Williams (5 & 3)	1	C. L. Blacklock	0
H. M. Walker	0	H. Cameron (2 up)	1
S. G. Morrison	0	D. P. Stevenson (4 & 3)	1
Total	3½	Total	4½

Hospital Information, etc.

Notice

GUY'S HOSPITAL CLUBS' UNION

Members of the Clubs' Union are reminded that cheap tickets to Honor Oak Park and Motspur Park are issued to students on the understanding that each ticket is presented by the holder at the booking office at the departure station to be dated by the booking cleark before the forward journey is commenced.

Members are also reminded that if the ticket is not so presented that they are liable to be called upon to pay the full ordinary fare and to forfeit the ticket.

Members of the Clubs' Union are particularly requested to see that tickets are stamped at the booking office before commencing their journey.

N. ECKHOFF,
Hon. Sec.,
Guy's Hospital Clubs' Union.

Pass List

CONJOINT BOARD. FINAL EXAMINATION.

October, 1933.

Pathology.

A. R. O. Denton
A. M. G. Campbell
C. G. Pantin
P. G. C. Jones
J. R. Dickinson
W. B. Clegg
J. T. Waldie
I. S. Eddy
H. A. Hamilton

Medicine.

*P. R. Wheatley
*O. Lyth
*G. V. W. Doherty
W. S. Noble
*J. E. Rowlands
C. J. F. Blumenthal
J. B. H. McArthur
S. A. W. Rushbrooke
*B. H. A. Bovet
T. R. F. Raw
*J. A. Brocklebank
J. S. F. Sutton
*G. L. B. Thurston
*V. B. Reckitt
*K. R. D. Coles
*M. S. Spink
E. A. Mayston

Surgery

A. S. Amsden
T. E. Howell
*K. S. Ramaswami
*R. L. Soper
J. W. Rhys
R. Mascarenhas
*B. H. A. Bovet
W. T. J. Fowler
*I. Zieve
J. M. McArthur
B. L. E. Wong
P. A. Wilkinson
J. W. Mansie
J. A. C. Hunter
D. S. Piper
L. I. Sobiya

Midwifery.

*M. S. Spink
*J. B. Jordaan
H. Cameron
J. F. A. Forster
R. C. Hill
W. H. Hamilton
B. D. Sachdava
T. L. Barbour
S. A. W. Rushbrooke
J. C. Henry
J. A. Sidebottom
R. H. Blazeby
R. A. Andrews
C. Mitchell
E. J. Pryn

* Have now completed the examination.

SOCIETY OF APOTHECARIES OF LONDON. FINAL EXAMINATION.

November, 1933.

Medicine.

H. D. Robinson
*H. B. Thornton

Forensic Medicine.

G. Wilson.

Midwifery.

S. E. Roberts
H. D. Robinson

* Has now completed the examination.

UNIVERSITY OF CAMBRIDGE. M.B., B.Ch.

November, 1933.

I. G. Robin.

BRITISH COLLEGE OF OBSTETRICIANS AND GYNÆCOLOGISTS. DIPLOMA.

October, 1933.

M.C.O.G.

J. B. Blaikley.

Papers by Guy's Men

F. V. Bevan-Brown. The emotional factor in disease. *New Zealand Med. Jour.*, 1933, xxxii, 268.

A. H. Douthwaite. Evipan sodium in the manipulative treatment of sciatica. *Brit. Med. Jour.*, 1933, ii, 1023.

W. W. Payne, R. D. Lawrence and R. A. McCanee. Sorbital (Sionon) for diabetes (illus.). *Lancet*, 1933, ii, 1257.

Change of Address

Dr. J. D. Thomas, Dan-y-Craig, Cheyne Road, Stoke Bishop, Bristol.

Dr. John Fawcett, 10, Chester Terrace, Regent's Park, N.W.1. *Welbeck* 5344.

EDS. { C. G. B. / G. L. B. T.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

THE sudden death of our senior surgeon was a terrible shock to the Hospital and to Guy's men all over the world. Although it is still difficult to grasp the reality of this hard blow, day by day we realise what a great difference there is, for he was never absent from the daily life of the Hospital.

Mr. Rowlands was without doubt our most brilliant and gifted surgeon, and the one by whom the Hospital was best known to the outside world. To his remarkable career and universal and high repute the obituary notices, in both the lay and medical press and in our own pages, bear eloquent testimony. Nevertheless, it was in the Hospital he loved and served so well that his quiet but powerful influence could be best appreciated by every colleague who was fortunate enough to work with him, and by every student who was privileged to serve under him. He was so human; not only did he give his patients confidence and hope by his kindly touch, but the stammering ward-clerk or blundering dresser knew at once that he sympathised with them and struggled to better things under his kind encouragement.

His tact was proverbial at Guy's, a necessary and fine example to us struggling apprentices of the art, but it was only a fool who could not appreciate the judgment behind his quiet words. He never scolded the most stupid and never tried to make anyone look a fool; there was no need—he had only to do anything himself for the most bumptious to feel very small. His teaching was never didactic or dogmatic, rather personal and indirect, consequently the more you learnt from "Bobby" the more you found he had to give. He was very generous in the experience and confidence he bestowed on those who worked for him, and was very quick to recognise and foster anyone who showed the slightest aptitude for surgery.

His memory was wonderful; he remembered the fathers of his dressers and ward clerks, so that they were welcomed as one of the family, and he never forgot anyone who had been on his firm, and took an interest in them throughout their hospital and subsequent career. Small wonder, then, that the "Bobby" firm was always a jolly one and was generally "first choice" for both ward clerks and house surgeons. His popularity was universal, and his influence spread from operating theatre and ward to every corner of hospital life; his idioms were common conversation and his delightful mannerisms appeared in nearly every Residents' Play, which no one enjoyed more than himself.

Humanity has lost a fine surgeon, the Hospital one of her most distinguished and lovable sons, and every Guy's man—past and present—a true friend.

▭

WITH the installation of the new telephone the yoke of the Houseman has been made considerably easier and one of his evergreen grouses taken away. One thing still remains to make this new blessing complete. We realise that it is not possible to connect the new automatic exchange directly with the outside world; this would mean additional expense and would be open to abuse. Nevertheless, it would be a great convenience if the national telephone in the Front Lodge could be connected with the College.

Doctors who wish to get through to Housemen about their cases, unless they have learnt by bitter experience to ring the College or Front Surgery, usually 'phone up the Front Lodge. The porter on duty there has then to ring to the College, where the Houseman is either to be found or his whereabouts known. Instead of being able to talk directly from the College the Houseman has to run across to the Front Lodge, often several times in the evening; not only is this an unnecessary waste

of time and energy, but it is unfair to the doctor, who is often paying for a trunk call. An extension from the Front Lodge to the College would necessitate little expense or trouble to the Hospital authorities, and would certainly do something to counteract the slur which is often cast against us—that Guy's is the most difficult hospital with which to get in touch with.

CHRISTMAS DAY is being celebrated in the Hospital this year on Monday, December 25th. The "Niggers" are to do their combined round as usual, and the usual motley crew will assemble on the Colonnade steps at five minutes to eleven for the photograph. This year the Surgical Wards are being visited first, so that the large crowd in the afternoon can be better accommodated in the more spacious Medical Wards. This will obviate the scrum in Pat. and Sam. and Evelyn which took place in former years, where few could hope to hear or see the "Niggers," and only the vibration of the big drum could be felt.

While very pleased to see visitors and camp-followers, the "Niggers" would like to remind them not to crowd out in their enthusiasm the patients, especially the young ones and those in bed.

WE would like to wish all our readers a Very Happy Christmas.

Obituary

ROBERT PUGH ROWLANDS, O.B.E., M.S., F.R.C.S.

"He prayeth best who loveth best,
All things both great and small."

I THINK this is the best epitaph for R. P. Rowlands. There never was, in my acquaintance, a man so devoted to his fellow creatures. Of very few men with any character can it be said that he never said a bitter word about anyone and had not an enemy. Yet this was true of Rowlands. Personality and character he had in abundance, but his kindness of heart and his sympathy with his fellow-men were his hall-mark.

His patients all felt it. No one of his patients but felt that Rowlands was entering into his distress, his anxiety and his apprehension; and yet they also felt that he had a supreme confidence in himself, in his own judgment and in his own skill. If everything went well, Rowlands rejoiced with his patient over his recovery. If things did not go so well, he suffered with his patients and with their relatives as if they were his own flesh and blood. This was the secret of the affection in which he was held by all who had him as their surgeon.

And as with men, so with animals. He was a born countryman, with a poacher's knowledge of the habits and minds of animals and with an intense interest in their lives. To go for a country walk with Rowlands was an education. He saw and heard things which you did not see and hear, he knew what the animals and birds were doing and knew why they were doing it. He understood them and loved them. And so all dogs, horses, cats and other animals on their part loved and worshipped him. He certainly did love all things, both great and small.

Robert Rowlands came up to Guy's in 1892. When I first knew him in the Dissecting Room he was a small, thin, curly-headed, sallow-faced Celt. He talked English with a very pronounced Welsh accent, and with his quiet industry and shining eyes soon earned the nick-name of "The Mouse," and this is the nick-name by which he was known to all of his generation. Later generations knew him as Bobby Rowlands, but to his contemporaries he was always "The Mouse."

He was very hard up and supported himself by dispensing at night and by coaching. When he was qualified at the Conjoint he realised that to get on the Staff he must have a degree, so he retraced his footsteps and matriculated and took all the examinations for the London Degree—and to do that needs a great deal of character.

Men who have been poor in their early days and are later successful are often greedy, avaricious and purse-proud; Rowlands was never spoilt by success. He was as generous as any man I ever knew, and his success and his belongings might not have existed. He was always modest, a little diffident, and inevitably kind.

A Welshman he was born and a Welshman he died. He never entirely lost the slight sing-song in his speech or the characteristic turn in the sentence, and until quite late in life he confessed that he thought in Welsh and translated into English when he had to talk. These little peculiarities of his afforded ample opportunity for caricature at Residents' Plays and in anecdotes, and were not without their value to him in impressing his personality upon successive generations of students. Except for one month when he was a house surgeon and I was his dresser, I never saw

him operate, so of his exceptional skill as an operator others must speak. But he was one of the first to emphasize the paramount importance of speed in operating, and with speed, technical dexterity. To him a slow technique was anathema as likely to be fatal to the patient. That lesson, at any rate, he did implant in the minds of many generations of students.

[By Courtesy of the B.M.J.]

Felix opportunitate mortis. He was happy in his death. He was fretting at the thought of breaking his active association with Guy's on his impending retirement, for, outside his entirely happy family life, Guy's was the essence of his life.

But we, his old friends who are left, can only mourn one who was one of the most brilliant surgeons of his day, and the friend of all.

H. L. E.

A TRAGEDY has occured in Guy's Hospital and in the world of medicine and surgery by the sudden death of our colleague and Senior Surgeon, R. P. Rowlands on the 7th December, 1933.

The circumstances of his death are perhaps what he himself might have wished, an unostentatious farewell to his friends, but the suddenness of his death is an overwhelming blow to all of us who relied on his presence, and in the life of our hospital his loss is irreparable.

Rowlands entered Guy's in 1892, and he was marked down for a great future. In his student days he collected every conceivable prize and award, not only those gained by scholarship, but also those awarded to the best student in each year of the curriculum; thus he gained the Arthur Durham Prize, the Michael Harris Prize, the Treasurer's Gold Medal in Clinical Surgery, and he was *proxime accessit* for the Beaney Prize in Pathology.

He was awarded the second prize for students in their first year, and the first prizes for students in their second, third and fourth years.

Rowlands qualified M.R.C.S. Eng., L.R.C.P. Lond. in 1896, and in 1897 he proceeded to House appointments, becoming Assistant House Surgeon, and later House Surgeon, to Mr. Lucas.

Following this, in 1898 and 1899 he was Resident Medical Officer in Bright Ward.. He then proceeded with junior Staff appointments, becoming Demonstrator of Anatomy in 1900 and Surgical Registrar in 1905.

During these years Rowlands gained many academic distinctions; in the Intermediate M.B. Lond. in 1900 he won the Gold Medal in Anatomy and First Class Honours in Materia Medica; in the Final M.B, B.S. Lond. he obtained the Gold Medal in Medicine. He took the M.S. Lond. in 1903; in the meantime he had obtained the Primary Fellowship in 1900 and the Final F.R.C.S. in 1901.

Guy's made a happy choice when Rowlands was elected Assistant Surgeon to the hospital in 1906, and from that date as a member of the Staff he has devoted his full energy and enthusiasm to promoting a very high standard of surgery. To be "on" with Rowlands was the desire of every student and House officer; it was an education in itself to observe Rowlands at work—a bold surgeon always advancing in technique, rendering old-time difficulties more simple, and with this an optimism which was justified by his technical skill and craftsmanship.

He appeared to have the courage and the gift to transpose a really desperate case into one of relative simplicity by some spontaneous surgical procedure which effected relief, and he would persevere with such a case unsatisfied until permanent cure had resulted.

Many of us have been privileged to see Rowlands in his life outside Guy's, where his hobbies were those of the countryside—its trees, flowers and

animals. In this recreation he was in his element, a natural man among Nature. His unassuming character allowed friendship between all ages, and initial respect inevitably led to admiration and a treasured friendship.

It may be truly said that Rowlands earned for himself the highest distinction in the world of surgery—that he did inestimable good to all around him, and that he set an example which might well be the aim of any or all Guy's men to follow.

We extend to his widow, son and daughter our heartfelt sympathy.

L.B.

Some Points in the Treatment of Empyema

By R. C. Brock, Esq., M.S., F.R.C.S.

(*concluded*)

THE TIME FOR REMOVAL OF THE DRAINAGE TUBE

WHEN speaking of the extra skill and attention needed in the management of closed drainage, let it not be imagined for one moment that constant care and after-treatment are not needed in the open method. The operation of rib-resection is merely an incident in the treatment of the condition, and the surgeon who resects a rib and never sees the patient again may imagine he has treated an empyema successfully, but he certainly has not. If satisfactory healing follows, then the credit is due to the person who managed the case afterwards. The only way in which open drainage simplifies after-care is that most of the dressing and attention can be left to a relatively unskilled person, providing *full responsibility is taken for the changing and removal of the drainage tube.*

The examiner mentioned earlier in this paper also asked a candidate when the tube should be removed from the chest. The answer given was treated with scorn by the examiner, who stated that the tube should be left in until the discharge ceased to be purulent or stopped altogether. This attitude is really lamentable, and reflects the loose and unreasoned thought that is so widely prevalent in deciding this most important step in management of the case. To dismiss the problem so airily is to reveal ignorance of matters of which a surgeon should be fully aware. Apart from any other consideration, if a drainage tube is present in a wound, then it will never stop discharging, and so how can one wait for discharge to stop? A foreign body lying in an infected wound must result in a constant purulent discharge.

It is essential to consider first of all the natural processes that result in the healing of any abscess, and then in particular that rather special form of abscess—a thoracic empyema. If an abscess in the soft parts is incised, the pus escapes, the walls fall together, and for a varying period of time there is a fairly profuse discharge of pus. As the inflammation in the walls of the cavity is dealt with by the body, the discharge becomes less in amount and less purulent, and the process of obliteration of the cavity proceeds rapidly by adhesion of the walls and their binding together by means of granulation tissue. Finally, the cavity is completely obliterated, the skin heals over the surface of the sinus and the process is finished. Now, no one will disagree with the statement that such an abscess is not healed until the cavity has been obliterated and the skin healed over it. If the skin heals and leaves a small pocket underneath, then the condition is not cured. It is true such a residual collection may in time be absorbed and the small cavity obliterated, but unless and until this happens a recrudescence of the symptoms is always likely. The selection of the exact time of removal of the drainage tube from such an abscess is usually rather in the nature of a shrewd guess based upon experience, and is roughly when the amount of discharge has lessened so considerably and the local and general signs of inflammation have so subsided that one feels confident that the abscess will continue to heal progressively and obliterate itself without any retention of pus. Occasionally one errs on the side of too early removal of the tube, the drainage hole becomes contracted quickly, the abscess reforms and the hole has to be enlarged once more and the tube put back for a time. In general, however, healing occurs quickly and satisfactorily unless something exists to prevent it such as a foreign body, a sequestrum, or the walls of the cavity are so rigid that they are unable to collapse together.

An empyema is but little different from this. When the cavity is adequately drained, pus is evacuated and, with the relief of tension, the walls begin to come together, *i.e.*, the lung expands. The discharge from the large area of infected pleura continues, but gradually lessens as the active inflammation subsides and the cavity is progressively diminished in volume. The cavity heals and obliterates itself by a gradual adhesion

of lung to chest wall around the periphery of the cavity, and a creeping in of this process centripetally until the cavity is completely obliterated. If the tube, which should have been left in until this has happened, is now removed there remains nothing but the sinus track leading from the old, now non-existent, pleura to be obliterated, and this quickly occurs. The adhesion of the lung to the chest wall is by a process of granulation and so must clearly take, at the very least, ten to fourteen days.

Now, in the "soft part" abscess there is a considerable margin of error in the time of removal of the tube; the walls tend to fall together so rapidly and freely that with anything like a reasonable hole of exit for the pus, healing is bound to occur satisfactorily. In the case of the empyema there is not nearly such a wide margin of error. If the tube is taken out too soon, *i.e.*, before the cavity is obliterated, then several things may happen. First, the process of healing may proceed unchecked and progressive obliteration of the cavity occur until a complete and lasting cure follows. This undoubtedly, and perhaps fortunately, happens in the great number of cases. Second, obliteration proceeds up to a point and then the drainage hole contracting down more quickly than the larger cavity does, drainage becomes inadequate and discharge is dammed back once more.

Again, several things can happen. First, with the retention of pus all the local and general signs may return and further operation becomes necessary. Second, the condition of "chronic empyema" results; the small sinus leads into a cavity in the chest of varying size, which is more or less always partly full of pus, its walls becoming more and more densely fibrous and rigid as time passes. Very often intermittent healing occurs, a feeble scab forms over the opening, the patient is dry for a short time, and then a fresh discharge of pus occurs. Third, the skin may heal over completely and form a firm scar and the patient be discharged from hospital apparently cured. Nevertheless, lying in the pleura is a collection of pus, a still unobliterated cavity. It is possible that this may be absorbed by the body, or even conceivably coughed up, with complete cure. More often, however, it is only a matter of time before such residual collections make themselves manifest. It may be months or years, it is usually years, but sooner or later the patient develops a pyrexial illness with pain in the chest and cough and is found to have "another" empyema. Very often when such a residual cavity becomes very chronic the thickening of the parietal pleura is so much more than that of the visceral pleura that it is easier for the pus to point into the lung, and rupture into a bronchus frequently occurs. These cases are in grave danger of being misdiagnosed as lung abscess or as bronchiectasis. The importance of these overlooked encysted empyemas can hardly be stressed enough. Such a condition should always be carefully excluded, particularly if there has been a history of pneumonia or operation for empyema. I have seen cases present themselves with symptoms after the condition has lain dormant for varying periods of time ranging from months to many years. The best instance was a man who had a left basal empyema in 1912, which was treated by rib-resection and drainage. After the tube was removed, the skin healed and he left hospital apparently cured. He served throughout the whole of the Great War, complaining only of a slight non-productive cough and occasional dyspnœa. I saw him in 1931, 19 years after the original operation. He had developed a productive cough with fever and general ill-health. This had been going on for nearly two years, with intermissions. On looking at the chest a distinct bulge could be seen in the lower axillary region on the left side; this was not due to a swelling of the soft parts, but to actual deformity of the ribs apparently over an underlying mass. On X-ray examination a large encysted empyema, showing a fluid level, was seen. Its chronicity was undoubted, and was amply proven by the gross calcification that had occurred in its walls and by this remarkable adaptive deformity of the overlying ribs. This is, of course, an extreme example, but it shows conclusively that it is possible for a patient to continue with his ordinary occupation and to be in apparently satisfactory health, and yet to have an encysted collection of pus. This point is by no means sufficiently appreciated, but yet is of first importance in appreciating the criteria of cure of an empyema.

Now, in the majority of cases the time of removal of the tube is, as in the case of the soft-part abscess, nothing more than a guess. In many cases, perhaps, a very good guess, but nevertheless a guess. The examiner quoted above would probably not admit it, but it is so. If one is content to take the tube out at what seems perhaps a propitious moment and rely on the natural expanding power of the lung to continue the obliteration of the cavity that still exists, then one is, of course, perfectly entitled to take the risk. It may be said, "Yes, but I always make very sure and leave the tube in a long time until I feel certain no cavity remains." Even then one cannot be certain; it is still a guess. In the great majority of cases an empyema heals in a

relatively short time, and if the tube is left in for what is considered a safe period, it doubtless covers the healing time of most, but it is, after all, the ones a little different from the average that are liable to give trouble and, unless one takes precautions to deal with these effectively and surely, then one's treatment can never reach a high standard. In many cases, also, such a policy results in the patient having the tube in for an unnecessarily long time. A few days too long does no harm and is, perhaps, a safe step, but two weeks or so too long is unnecessary and careless. Clearly there must be an approximately exact time for removal, and some effort should be made to assess this.

One's criterion of the correct time to remove the tube should be when a cavity can no longer be demonstrated to exist. Such a criterion is the only safe one for the absolute cure of an empyema, and if a surgeon is conscientious in his treatment and anxious not to have " chronic " or recurrent empyema then he should accept this as a truism.

There is only one simple, safe and certain way of determining the satisfactory obliteration of the cavity, and that is by measuring it. Guessing, probing or X-raying are all equally fallacious. A probe is dangerous and inefficient, an X-ray can be totally misleading and fail to show even a large cavity if it is empty and posteriorly situated. I can see no reasonable objection to measuring the volume of the cavity. The only possible hindrance can be the presence of a broncho-pleural fistula, and if such is present then one should automatically keep the tube in.

The measurements can begin at any time during the first day or two after operation. The procedure is quite simple; the patient is first placed on his side in such a position that the drainage hole is at the highest point of the cavity—this usually means removal of all pillows except one under the head (not shoulders), and perhaps insertion of a pillow under the pelvis. The tube is then removed and warm saline or Dakin's solution allowed to fall gently into the cavity from a graduated syringe (*e.g.*, 20 c.cs.). If the patient is breathing reasonably quietly and does not cough a very exact measurement of the volume of the cavity is obtained. The patient can then be turned over so that most of the fluid runs out into a dish; the tube is re-inserted and dressings applied. The whole procedure only adds a minute or two to the ordinary dressing.

The measurements can be repeated at convenient intervals (*e.g.*, every other day to begin with and then less frequently). The readings should be charted or put in the case report. Apart from the practical value of this method in treatment, the findings are of interest and value in showing the rate of obliteration of a cavity. One is always struck by the sudden abrupt diminution in volume during the first few days, then follows a steady small decrease, and finally a further slowing up towards the end of healing. Occasionally one finds a cavity that has been getting progressively smaller and has reached, say, 100 c.cs., suddenly increases to 400 c.cs. It is clear in such a case that some adhesions have given way or a further undrained loculus has ruptured into the main cavity. Such an occurrence is at once appreciated by this method, whereas the " By Guess and by God " technique would be unable to appreciate the setback that had occurred. The system of measurement is not without possible error, and it is easy grossly to underestimate the volume by failing to arrange the patient in the optimum position for filling the cavity completely. If (as one has seen) one or two pillows are left under the shoulders and the middle of the bed allowed to sag, a totally fallacious reading results. The drainage hole must be at the highest point.

As the volume of the cavity progressively diminishes the drainage tube may be correspondingly shortened, or replaced by a narrower one. On the whole one should not be too quick in making the tube narrower. When the cavity holds not more than 10 c.cs. a small tube of only lead-pencil size or a little bigger need be left in, and in a day or two it will be found that the volume is approximately 5 c.cs.; it is now necessary to leave in only a piece of Carrel's tubing for a day or two for such a measurement means one is dealing with but little more than a sinus track through the chest wall, and this should quickly close. When these smaller cavities are being measured it is better to attach a fine catheter to the end of the syringe and insert this as far into the chest as possible, so that the fluid is delivered at the bottom of the cavity and will displace air above it. Otherwise, if only allowed to drip into a small opening, an air-lock quickly forms and a false reading results. When the cavity is down to about 10 c.cs. it is good to make it a rule to run some lipiodol in and thus make absolutely certain of the size, shape and position of the cavity. The oil should be run in by means of a fine catheter as described above. The information obtained is invaluable, and gives one absolute confidence in dealing with the question of tube removal. Moreover, the X-ray picture obtained serves as a permanent record.

Some illustrations of the application of these principles are an advantage :—

1. A boy, aged 12, had an empyema which had eluded detection for some ten weeks. At operation

a small cavity (about 75 c.cs. in volume) was found lying up under cover of the lower portion of the scapula and having very thick, rigid walls. Its high position rendered necessary the use of a fairly long ascending drainage track. In spite of the rigid walls the lung expanded very satisfactorily, and on the 14th day the cavity measured only 8 c.cs. Following one's usual practice, lipiodol was instilled into the sinus and the resulting picture showed nothing more than a rather long and irregular track, not opening into a pleural pocket. A piece of Carrel's tubing was placed in the wound and shortened daily for a few days and then removed. Healing of the wound was, however, somewhat slow. It would become slightly inflamed, there would be a slight increase in temperature, and then, on application of a hot fomentation, a small discharge of pus and subsidence of the local signs. The question naturally arose as to whether the tube should be replaced or not. The most important thing before deciding such a step was unquestionably to make absolutely

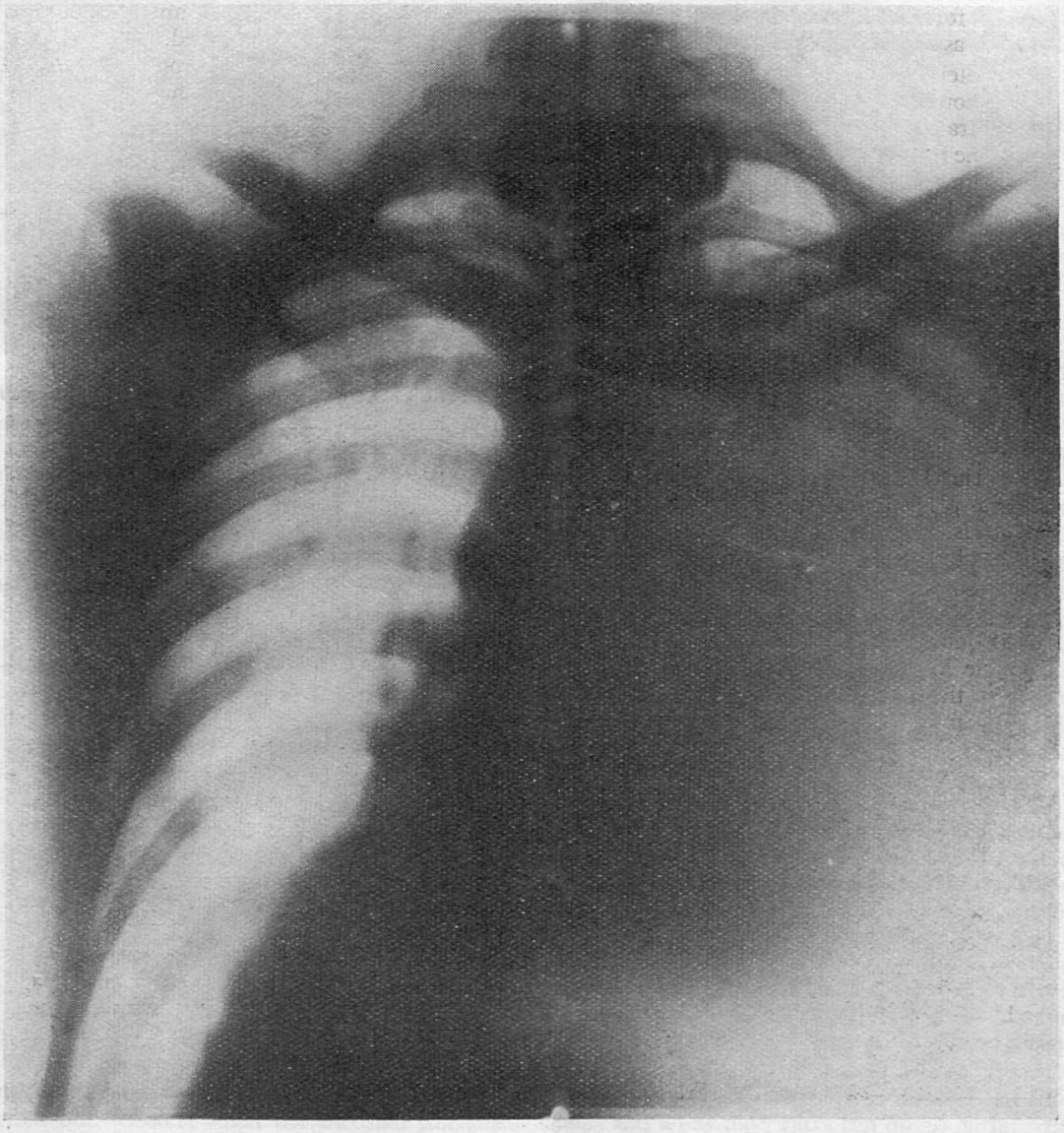

Fig. 2
Unilateral pleural effusion before aspiration and air replacement.

certain whether a pleural cavity still existed, or whether it was indeed a rather long, fibrous sinus track. Lipiodol was run in again and again failed to demonstrate any pleural pocket. Knowing this, it was felt that one could advise with complete confidence against replacing the tube. He had had a long illness with a period of ten weeks in which an undrained empyema was present, and his general condition had suffered considerably. It was, therefore, felt the correct thing to do was to send him away to a convalescent home. This was done, and when seen two months later he was scarcely recognisable as the same boy. He was robust and well-covered, and the sinus was soundly healed. X-ray examination of the chest was perfectly satisfactory.

What it is wished to stress in this case is that one could send this boy out of hospital with a discharging sinus with complete confidence, knowing, in fact, that an improvement in general health was all that was necessary to complete healing. On the other hand, it would have been incorrect to send him away with a tube in place, because

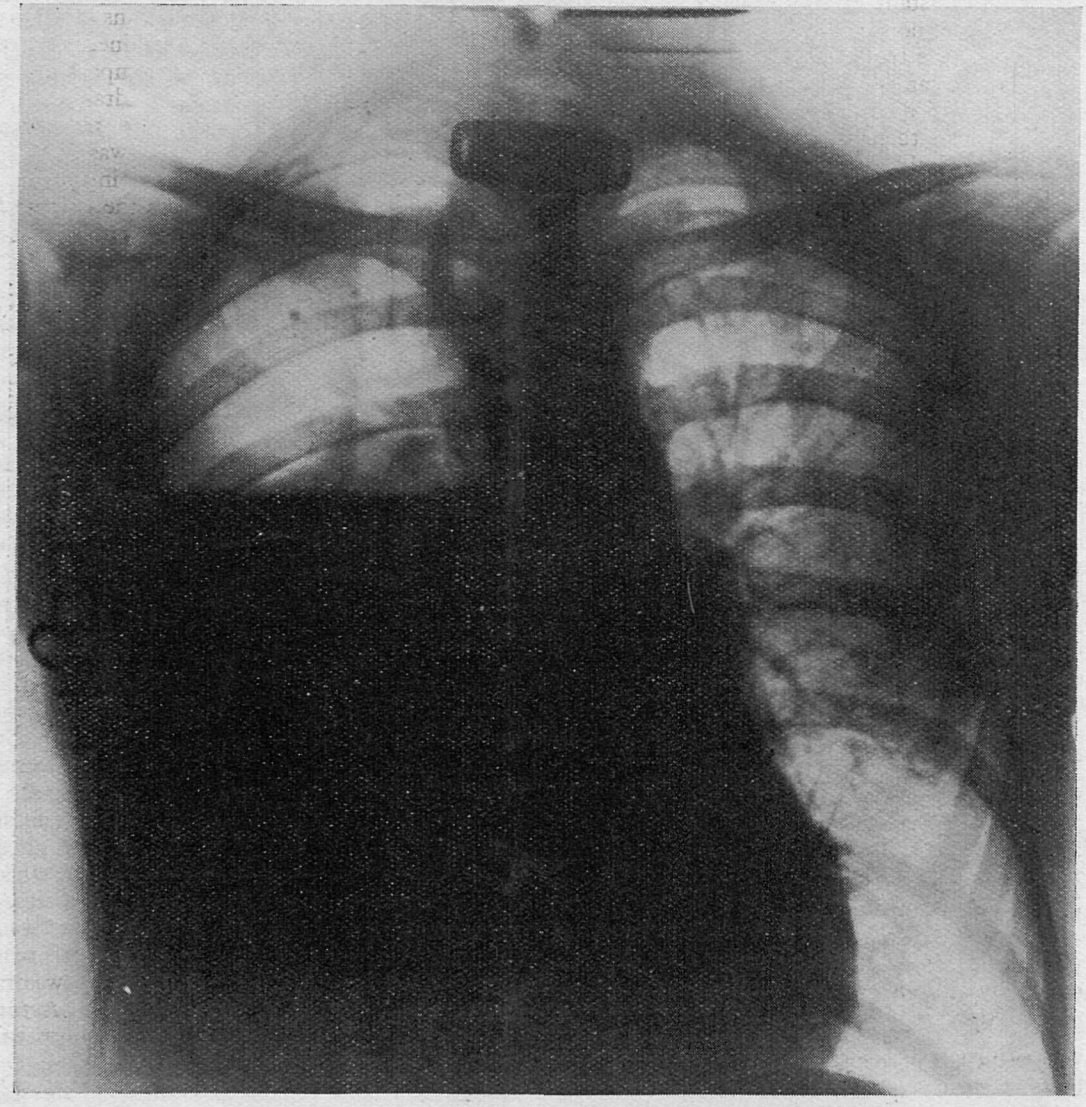

Fig. 3

The same after aspiration and replacement by air (upright view)

healing would undoubtedly have been unnecessarily delayed.

The question of sending a patient out of hospital with a tube still in is one of first importance. It is a practice which is, unfortunately, only too prevalent. There is only one thing that justifies such a procedure, and that is if one is dealing with a chronic empyema which has been inadequately drained and it has been decided to give the cavity three to six months' adequate drainage before doing anything else. Under these circumstances it is, of course, unnecessary for the patient to stop in hospital, providing always that one can be sure he is under constant and satisfactory supervision and the tube is not allowed to come out (or slip in !). But in the treatment of an acute empyema such a practice can only be condemned as unsound and unsafe. If it is necessary for the tube to remain in, then there must be a cavity still unobliterated. If there is such a cavity, then the patient is not cured, and to send him out of hospital is merely seeking for trouble. It is all very well to say that he is going to be looked after or is going to attend in a week's time, or some such thing. It is too unreliable. The final details about the selection of the correct time for removal of the tube are too complicated and full of possible traps to be left so much to chance. It is the case that is taking a little longer than usual to heal that is liable to be sent out in this way by an impatient doctor, and, as already mentioned, it is just this sort of case that needs the extra care and attention. It is from this sort that chronic empyemas are made. One may not see the patient again for weeks; by this time his tube has probably come out or has been taken out (or slipped in !); he has only a small sinus inadequately draining a chronic abscess cavity with dense, sclerosed walls. One should only consent to handle a patient recovering from an acute empyema as an out-patient under the rarest of circumstances. The control one has over the case is totally inadequate for a condition which may progress into such a serious problem as a chronic empyema can be.

2. A man, aged 21 years, suffering from an old post-diphtheritic laryngeal stenosis, developed an acute respiratory infection which necessitated a re-opening of his old tracheotomy and was later followed by the development of an empyema at the right base.

When first noticed the pleural fluid was purulent, but rather thin and watery, and aspiration was carried out. Later, when the pus had thickened and better localisation had occurred, it was felt that more adequate drainage was indicated. Fig. 2 shows the chest before aspiration; Figs. 3 and 4 show it in upright and horizontal position after aspiration and replacement by some air. The value of this step was discussed earlier in the paper, and it can be seen that an enormous cavity is present, representing almost the complete hemithorax. On one occasion 2,600 c.cs. of fluid were aspirated. It is to be noted particularly how the views in two planes can be used to demonstrate this, whereas Fig. 2 scarcely shows it. In view of the size of the empyema, its relatively recent onset, and the very poor respiratory mechanism that was present anyhow, it was felt that a rib-resection at this stage would be unwise. Accordingly an intercostal drainage by means of a No. 16 catheter was performed. This drained very well for three or four days and the temperature fell. As so often happens, however, drainage then became less satisfactory and the temperature began to rise again. Rib-resection was thereupon carried out and open drainage installed. At operation the huge dimensions of the cavity were verified. The efficiency of the open drainage is well seen by the subsequent measurements of the cavity.

Before operation	2,600 c.cs.
5th day	250 c.cs.
8th day	240 c.cs.
13th day	190 c.cs.
18th day	120 c.cs.
24th day	75 c.cs.
29th day	45 c.cs.
39th day	12 c.cs.

On the 39th day it was found that, following some previous difficulty in retaining the tube, it had slipped out and remained out for some 24 hours, and the track had already narrowed. Drainage at this time was small in amount and not grossly purulent, and there is no doubt that many people would have left the tube out, thinking it was a good time to do so. Measurement of the cavity showed it held some 12 c.cs., however, and the result of instillation of lipiodol is seen in Fig. 5. No comment is needed upon this figure; it is self-explanatory. The tube was left in and shortened gradually, until finally, on the 59th day the cavity only measured a few c.cs., and a lipiodol X-ray revealed the condition shown in Fig. 6. In other words there was a sinus track down to the pleura, but no pleural space. The tube was now left out and healing rapidly occurred. Actually for the last seven days or so it was probably scarcely necessary to retain the tube, but one should err slightly on the side of safety in such a case, and a few days extra can do no harm. Even with this the whole time of healing was eight weeks, which is not an excessive time for a cavity

originally so large and for a patient with the disadvantages of a tracheotomy tube.

One often hears fears expressed that the drainage tube is keeping the lung from expanding. This scarcely ever happens; the tube is usually pushed out at once when the expanding lung encounters it. In fact, this introduces a further "snag" in management. As the cavity diminishes it becomes increasingly difficult to keep the tube in place. In such cases it can be firmly fixed to the chest wall by strips of strapping passed through the safety-pin in the tube. Unless great care is taken to make sure the tube stays in it may come out a short while after the dressing has been done, and remains out perhaps until the following day. Thus is laid the train of events leading up to a chronic empyema. By the next day the hole has contracted to such a degree that it is exceedingly difficult to re-insert the same tube. The inexperienced surgeon (or nurse) promptly decides to put a smaller tube in instead. Very often the next size at hand is considerably smaller, and is inserted. This procedure is very likely to happen all over again, and the next calamitous step is that the attendant, getting weary of finding the tube out every time the dressing is done and finding difficulty in re-inserting it, promptly decides the time has come to remove it, and does so. I have already described the chain of events that are liable to follow this step. There is no

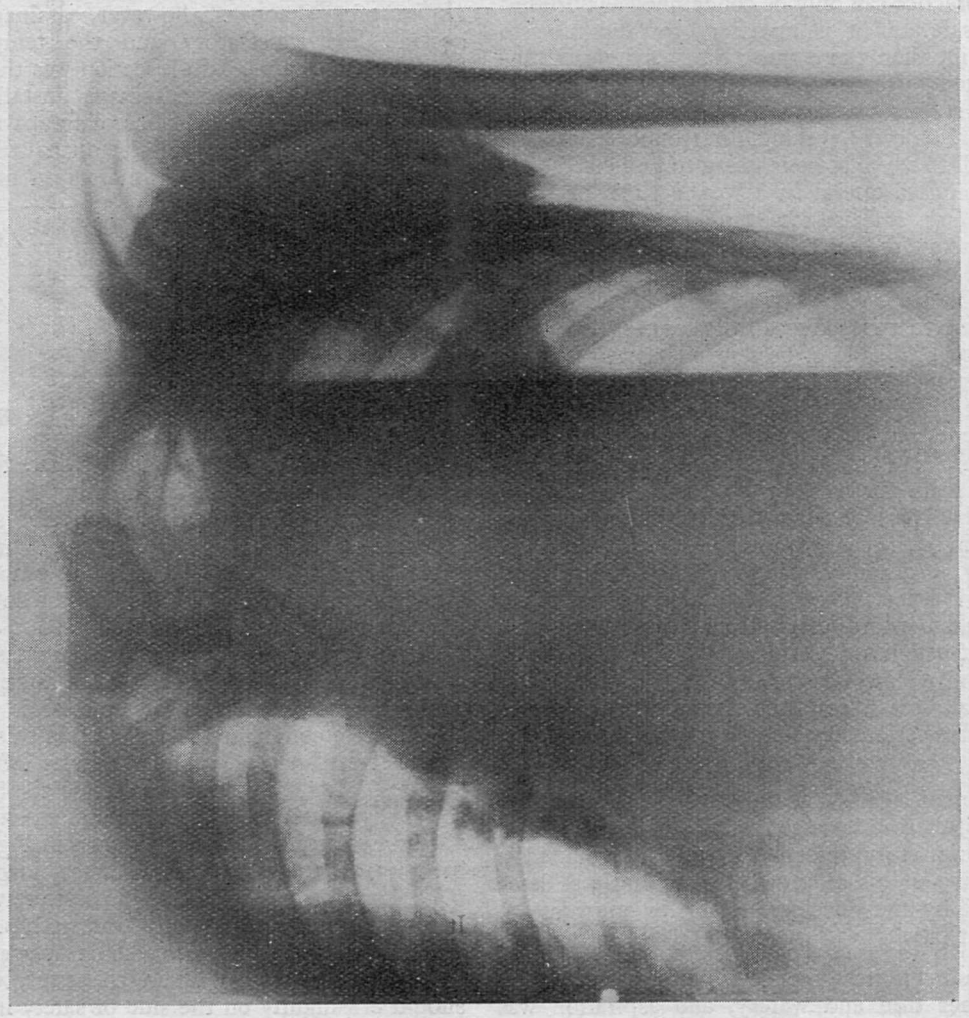

Fig. 4

After aspiration and air replacement (horizontal view).

question that a tube which has come out should be replaced at the earliest opportunity, and, unless there is some other very good reason for replacing it by a smaller tube, the same tube or one of equal size must be used.

It frequently happens that the tube is noted to be out at an evening dressing, and is left out all night by the nurse, who thinks it is not necessary to disturb the houseman and that the morning will do just as well. This is quite wrong; if it is difficult to get it back at that time, it will be even more difficult to get it back in the morning. Actually, by placing a sandbag under the opposite ribs so as to widen the rib-spaces of the affected side and by getting the patient to raise the arm well above his head so as to elevate the scapula, it is usually possible to get any size tube back again, providing one first investigates the exact direction of the sinus and is prepared to be unkind but firm for a moment or two. If a tube has been left out so long that it is impossible to replace one of equal calibre and yet one is certain that no smaller tube should be used, one should insert the largest possible tube for 24 hours, and at the end of this time it will be found that the hole has enlarged (the sinus always loosens around a tube) and a size larger can then be put back. If such were not possible it is better to give an anæsthetic to insert one of adequate calibre than compromise.

There is one more "snag" of dressing an empyema which should be widely known. When the dressings are taken off, frequently *en masse*, it may be noticed that the tube is not in the wound. It is then frequently assumed that it has slipped out amongst the dressings and has been thrown away with them. Another tube is put back and everyone is happy. There is only one way to regard such an event. If the tube is not in its place in the sinus then it should be assumed to be inside the chest, and in most cases this is actually

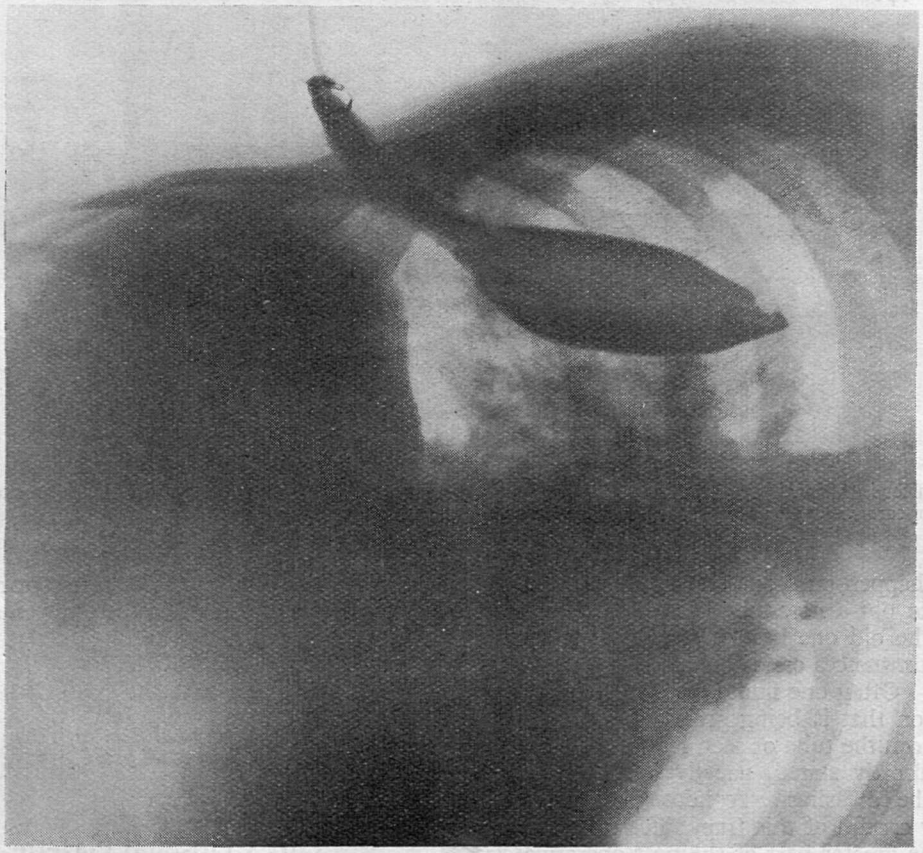

Fig. 5.
Picture after introduction of lipiodol.

where it is. I have seen this happen as early as the first week after operation, but the more usual time is later on (three to four weeks), when the dressing is becoming less in magnitude and interest, and is, perhaps, being done at odd times by different people. When an empyema has taken longer than usual in healing this is even more liable to happen, and one should be very careful if asked to put a new tube in an empyema sinus because the old one has "slipped out." Under such circumstances one should demand to see the old tube. Often one finds it is only second-hand information that is being given, that no one has actually seen the tube or seen it thrown away. It has, as already stated, usually been assumed it was in the dressings. A houseman has to be especially careful of this trap, since in most cases he has the greater part of the post-operative care delegated to him. Unless it can be proved conclusively that the tube is not inside the chest, then this fact must be excluded. The chest should first be X-rayed in case the tube is radio-opaque, and if this examination is negative then the interior of the cavity should be inspected by means of a thoracoscope, cystoscope, bronchoscope or some such instrument. Only in this way can one be sure the tube has not been left inside.

It is an extremely serious thing to leave such a tube because healing can never take place until it is removed, and it frequently happens that in the course of the months (or years) that follow, such an incident as a lost tube is forgotten (or all the dressers, nurses or H.S. concerned have changed), and its possible presence as a cause of the chronicity may be entirely overlooked. Such a thing may happen again and again, and there are many instances on record of six or more tubes being removed from a chronic empyema cavity.

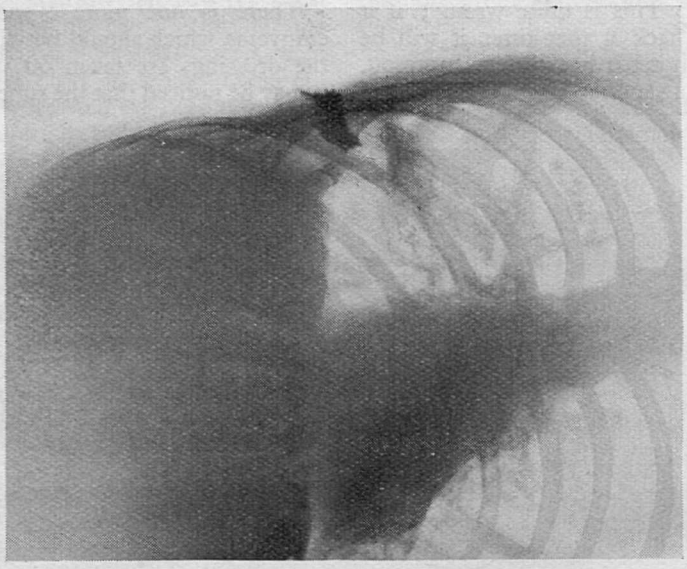

Fig. 6

Picture after introduction of lipiodol. Compare with Fig. 5. The oil no longer enters a pleural pocket. The appearance of its entering the chest is given because the sinus lies somewhat posteriorly.

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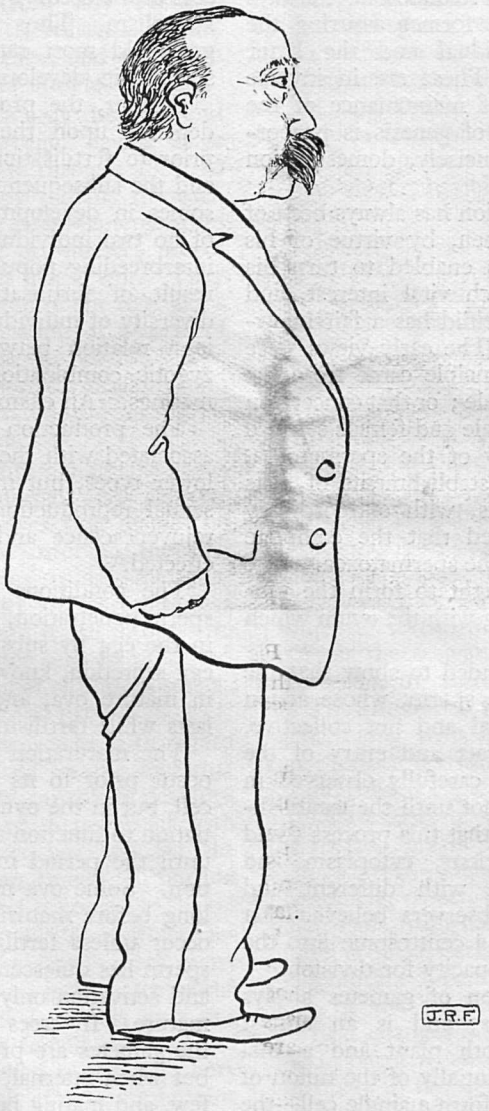
(ESTABLISHED 1872)

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.



"EXCUSE ME, SIR . . . . ."

Fertilization and the Determination of Sex

A Paper read before the Guy's Hospital Physiological Society by M. R. Woods, Esq.

MR. CHAIRMAN and GENTLEMEN,—It has been suggested that the two primary interests of mankind have always been hunger and love, the former assuring the preservation of the individual and the latter preservation of the race. These are in inverse ratio, for when the cost of maintenance of the individual is low, the rate of genesis is proportionally high—or, more concisely, domestication leads to increased fertility.

The process of reproduction has always been of interest since the time when, by virtue of his power to reason, man was enabled to turn his attention to matters of such vital interest, and to-day, it seems, even the child has a fair knowledge of basic principles. The early views were that the anima or vital principle came from the male, the body from the female ; or that conception was due to a mingling of male and female seminal fluids. With the discovery of the spermatozoa, concrete material for the establishments of facts was obtained, but theorists, with extraordinary imaginative powers, affirmed that the complete human form was visible in the spermatozoa. The tail of the sperm was thought to form the umbilical cord, the head uniting with the ovum which formed the placenta.

All the evidence soon tended to show that the fertilising power lay in the sperm, whose action was shown to be individual and not collective. The actual approach, contact and entry of the sperm into the ovum was carefully observed in the sea urchin, but it was not until the establishment of the nuclear theory that this process could be understood. The nucleus, cytoplasm and centrosome were credited with different and specific roles, and some observers believed that the simple introduction of a centrosome into the egg endowed it with the capacity for division.

The formation and union of gametes always go hand-in-hand with sex, and is an almost universal phenomen of both plant and animal kingdoms. It consists essentially of the union of two cells called gametes to form a single cell—the zygote. It is the central decisive event in the life history of all sexually-produced organisms, and it constitutes the basis of all development and heredity.

The gametes themselves are incapable of further existence or development, but by their union a rejuvenated individual is produced, which possesses a maximum growth energy shortly after fertilisation. Rate of growth then falls, first rapidly, then slowly, until at maturity the processes of growth and destruction balance, and old age and death occur when katabolism is greater than anabolism. Thus an organism may be said to grow old most rapidly at an exceedingly early stage in its development.

Further, the process of biparental inheritance depends upon the preparation of the gametes prior to fertilisation, their union at fertilisation, and the subsequent redistribution of the chromosomes in development. Since the germ plasms of no two individuals is exactly alike, in a freely interbreeding population, the combinations, as a result of fertilisation, produce an appreciable diversity of individuals, and it is found that there is a relation between vigour of offspring and zygotic combinations in favour of heterozygeus matings. An example is the mule.

The production of vigour is not necessarily associated with the process of fertilisation in the lower types, but in higher forms the process of sexual reproduction is the only means whereby rejuvenescence and species-maintenance can be effected.

The conditions for fertilisation are not only sperm penetration, but an activation of substances in the egg by substances from the sperm. This egg secretion, known as fertilisin, is only present in mature ova, and a fertilisable condition only lasts while fertilisin is present.

The maturation divisions of the sperm always occur prior to its differentiation as a locomotor cell, but in the ovum, which requires no differentiation to function as a gamete, these do not occur until the period immediately preceding fertilisation. Some ova may lose the power of division long before maturity, and these divisions do not occur unless fertilisation takes place there ; the sperm lies quiescent in the egg and nuclear union and activation only takes place when the ovum is mature. In cases where fertilisation is external the gametes are produced in enormous numbers, but when internal, the gametes are comparatively few, and mating behaviour and coitus assures the meeting of the germ cells.

The fertilisation membrane is interesting in that in some types it is present before fertilisation and the sperm has to pierce it, whereas in others it is formed with remarkable speed from the point of entry of the successful sperm. In the first case the head of the sperm causes an extrusion of jelly from the cortex of the egg, preventing the entry of other sperm and rendering the membrane

itself visible. The space originally occupied by this jelly—the perivitelline space—allows the rotation of the cytoplasm of the egg which may be yolky, and appears to be essential for the normal development of such eggs. In the second case, the membrane is usually thick and resistant, is an effective agent in preventing polyspermy, and gives adequate protection from any harmful environment. In mammals, fertilisation takes place high up in the uterine tube, and activation and consequent cell-division is initiated rapidly.

The spermatozoon, of which only the head and middle piece may enter the egg, having once penetrated a mature egg, rotate through 180°, so that the centrosome is pointing radially inwards. Protoplasmic rays—the sperm aster—emerge from the centrosome and the male pro-nucleus moves towards the female pronucleus of the egg. They meet in a pre-determined region of the egg, since they are both in the same relation of a mass of protoplasm which is about to divide. The central body of the sperm aster divides into two centrosomes, which diverge and form an amphi-aster—the first cleavage spindle.

Sometimes direct nuclear fusion may take place, but in most cases the maternal and paternal chromosomes arrange themselves side by side on the spindle in equal groups prior to the first division. The first segmentation spindle therefore contains the diploid number of chromosomes which divide longitudinally and travel to opposite poles, so that the two daughter cells so produced not only have the diploid number of chromosomes, but their nuclei are of biparental origin.

The equivalents of the germ nuclei with regard to the chromosomes is evinced by the fact that either germ nucleus is, in itself, capable of development, for the egg—artificial parthenogenesis with half the number of chromosomes, and for the sperm—the development of an enucleated portion of the egg when fertilised by a sperm.

An interesting diversion of normal monospermic fertilisation is polyspermy. Here many sperms may enter one egg, and in the case of the large eggs of birds and some amphibia only one male nucleus fuses with the female nucleus and all the other sperm are repelled to the periphery and take part in the formation of extra embryonic tissue. When eggs are normally monospermic, they may be rendered polyspermic by a very heavy insemination or by narcosis by injurious substances. Each male nucleus forms an aster, and when the cell divides each daughter cell is multinucleated. Abnormal embryos are produced, which soon die.

The reactions of spermatozoa to egg secretions of their own and other species is important in normal and hybrid fertilisation. Egg secretions have the following effects on nearly all sperm suspensions :—

1. Stimulation to increased activity.
2. Aggregation of the sperm.
3. Agglutination of the sperm by their heads into clumps. This reaction is normally spontaneously reversible, but if the sperm is of a foreign species the sperm remain clumped together, and if the secretion is strong enough are soon killed. The agglutination reaction is due to the presence of an agglutinable substance in the sperm—isoagglutin in the normal sperm and hetero-agglutin in sperm of foreign species.

The chief physiological indications of fertilisation are :—

1. Increased rate of oxidation and therefore of CO_2 output.
2. Increased permeability to gases and water.
3. Consequent changes in physical state.
4. Chemical changes shown by a complete loss of fertilisin.

The problem of activation is of importance. Sperm will enter eggs devoid of agglutinating substance, but these are not activated. Evidence shows that the agglutinating substance is also responsible for activation.

A supposition has been put forward that eggs contain in their interior a substance—anti-fertilisin—which combines with the agglutinating group of fertilizin at fertilisation, and hence liberates the activating part of fertilizin which is responsible for activation. Its mode of action is not known, but it is a powerful parthenogenetic agent, along with many of the chemicals which can produce activation and membrane formation in unfertilised eggs. In all cases development by artificial agents is far slower than the agency of the sperm, and the mode of action of these agents is not known. Delage's famous theory is that the phenomena of cell division depend upon a series of changes from col to gel, etc. The first effect of any artificial agent was to produce a coagulation —membrane formation—and the next disappearance of the nuclear membrane—gel formation. Cortical changes always precede nuclear changes, and in parthenogenesis asters tend to arise spontaneously in the cytoplasm and the chromosomes divide in the normal way, some time after fertilisation.

That fertilisation is important in the determination of sex and that sex is determined chiefly by the influence of the chomosomes is easily seen when the evidence brought forward by the cytologist and the geneticist is considered.

By means of experimental back crossing in the currant moth, where colour is sex-linked, the male

being dark and the female light, the following results have been obtained. A back cross is a simple cross between a hybrid and one of its parents. When the dark males of F_1 were crossed with a white female, the offspring were half dark and half white, but both types were of both sexes—that is, white and dark males and white and dark females in equal numbers. When a dark female was crossed with a light male the offspring were again half dark and half light, but this time all the dark were males and all the light were females.

The only feasible explanation of the relation between sex and colour is that sex is a Mendelian factor. In this case femaleness is always heterozygotic for sex and dominant to the male, which is homozygotic. Many other cases of sex linkage lead to the same conclusion, that sex must be a Mendelian factor—one sex being hybrid and heterozygotic for a sex factor and thus producing two kinds of germ cells, and the other being homozygotic for a sex factor and only producing one kind of germ cell. In other words sexes are to be distinguished by constant differences in the chromosome content of the tissue cells. The chromosome number of any species is constant, being a multiple of 2, and is characteristic for the species. The chromosomes of somatic tissues and immature gametes are present in pairs. In the female, with the exception of birds, moths and butterflies, the chromosome pairs are exactly alike in size and shape, whereas in the male the members of one pair are dissimilar. The homologous pair represented in the female can be termed XX, and in the male there is an X as in the female, and the unequal mate is called the Y. One or other of each pair of homologous chromosomes passes into each mature gamete, thus producing similar ova and each containing an X chromosome and dissimilar sperm—one with an X and the other a Y.

At fertilisation the X ovum may unite either with an X sperm, producing a female XX, or with a Y sperm, producing a male. In this way the number of the sexes is regulated and kept approximately equal. In these cases the number of chromosomes is even, and there is no difficulty in halving the number of chromosomes at niciosis, when the chromosomes lie together in pairs. Some species have females with an even number of chromosomes and males with one chromosome less. In niciosis this chromosome passes to one or the other pole of the dividing spermatocyte, giving rise again to two types of sperm. For example, let the female have 22 chromosomes, then the male will have 21. Two types of sperm are produced, one with 10 and the other with 11 chromosomes, whereas all ova must have 11. At fertilisation a zygote with either 21—a male—or 22—a female—can be produced.

In man the chromosome mechanism has still been found to hold good, though there is still some doubt as to the exact chromosome number. Some observers find 24 among which there is the special XY chromosome. Thus human sperm must contain female determining sperms 11+X and male determining sperms 11+Y. Others have found 48 and 47 chromosomes, and it seems probable that both appear.

That man produces two kinds of sperm is borne out by the evidence of sex linkage in man. The most notable examples are hæmophilia, colour blindness, night-blindness and muscular atrophy.

In hæmophilia the defect is only found in the male sex, and it omits a generation in its inheritance. If an affected man marries a normal healthy woman all the children are healthy, and even the offspring of the sons, if any, are healthy. Half the sons of the apparently healthy daughters are affected. The female acts as the carrier and is not affected herself, the gene for hæmophilia carried by one X chromosome apparently being neutralised by the other X. The male, however, has to suffer for his misfortune in having an unequal partner to his X chromosome. Theoretically, it should be possible to wipe out hæmophilia by sterilising the female carrier or the affected male.

Thus sex is a Mendelian character in man, and it must be clear that sex is determined at the time of fertilisation. That the sex of monovular or identical twins is always the same is explained by the fusion of the zygote at a very early stage. The sex had already been determined, and since the chromosomes of daughter cells by mitosis are identical, each embryo must develop into the same sex. Other somatic characters such as fingerprints have also been shown to be identical. Binovular or fraternal twins, formed by the synchronous fertilisation of two separate ova by two separate sperm, may differ in sex, and certainly in somatic characters. Two corpora lutea are always found for fraternal twins, if the ovaries are examined. Such twins may be two normal males, two normal females, one female and one male, both normal, or one male and an abnormal individual known as a free martin.

The explanation of this is that the fœtal membranes, and consequently the vascular supply of the two embryos, have fused, and internal secretion is able to play a part in regulating sex differentiation. If the embryos are bisexual, the testis of the male being differentiated before the ovaries, its internal secretion—the male sex hormone—

influences the co-twin, a genetic female, and it assumes imperfect male characters.

The gonads of the male developed into testes because they were influenced by substances elaborated by the chromosomes of the zygote, which was determined a male at fertilisation. The assumption of male characteristics is determined by the internal secretion of this testis. This internal secretion formed before the ovary is yet differentiated, swings the sexual differentiation of the genetic female in the male direction, but it cannot do so completely because the co-twin is a genetic female and the constitution of her tissues is different from those of a genetic male. If the male sex hormone were identical with the male determining substances elaborated by the sex determining factors, the free martin would be completely male. Instead, it shows female externals with male internal genital organs, and is always sterile.

All types of intersexuality or pseudo-hermaphroditism have been found in man, but it is unknown in most cases whether the cause is zygotic or hormonic. Genetically an individual of the free martin type would be a female intersex with a high degree of intersexuality. The individual would be treated as a female, but, because of hormonic influences of the testis, would have male instincts, and would be declared by the authorities a male with a slight degree of intersexuality.

Thus it is impossible to classify pseudo-hermaphrodites correctly, unless something is known of the early history, or analagous cases are found in other mammals.

From the hormonic point of view it is remarkable that the fœtus is not normally influenced by the female hormones circulating in the maternal blood, and a disturbance of the unknown antagonistic mechanism might lead to male intersexuality.

Another interesting example of sex linkage is that of the tortoiseshell cat, produced by a crossing of black and yellow cats, where black and yellow are sex-linked. The female can have factors for black and yellow on her two X chromosomes. Since X is the carrier, the male must have either black or yellow, but not both. The results of crossing will be black or yellow males, black or yellow females, and tortoiseshell females. A male cannot be tortoiseshell, and this case proves that the colour factor is contained in the X chromosome.

The question of maternal impression is one that is of paramount importance, and some breeders still seem to believe that vivid sense impressions and strong emotions of a pregnant female can influence the offspring. Some breeders, in order to ensure black calves, keep their cows in black-painted stalls, and it is still widely taught that pre-natal culture can influence the unborn human child. From a genetical point of view, maternal culture can have no influence on the course of the hereditary factors, and from an anatomical point of view it is known that marked errors of development leading to physical defects are due to some cause within the embryo itself, most of which are expressed during the first few weeks of pregnancy when the mother is not even aware of her condition. After birth, the child's abnormality is correlated with some outstanding apparent coincidence during pregnancy. The influence of this supposed influence cannot be found, and it is certain that there are no nervous connections between the fœtus and the mother, and equally unlikely that hormones can affect genotypic characters.

Finally, the sex ratio must be mentioned. In most animals, regulation of the sexes is left to chance by the production of two types of sperm, male and female determining in equal numbers. In the deer a more ingenious mechanism—that of parthenogenesis—is made use of to regulate the sexes.

Parthenogenetic bee eggs always give rise to males or drones, whereas fertilised eggs develop into females, the workers and queens. The queen is able to regulate the production of the necessary sexes to a nicety. The chromosome mechanism is special, each ovum and each sperm containing one X chromosome. On fertilisation, two X chromosomes come together and the individual is a female, whereas parthenogenetic ova develop into males having only one chromosome, and half the normal number of chromosomes, there being a special reduction division at spermatogenesis

In man, the sex ratio, according to census statistics, is on the average 106 females to 100 males for western countries, showing an excess of females. The birth statistics are usually the reverse, being 106 males to 100 females. In still-born statistics, ratios of 160 males to 100 females have been found. Thus there must be a selective elimination of one sex, beginning before birth and continuing into early childhood.

Factors determining this ratio are hybridisation or crossing, increasing the birth number of males ; the age of the mother (more males being born the younger the mother, and decreasing as she ages), and lastly, the time of conception—a marked excess of males if this occurs in the first week after menstruation and an excess of females if in the third week.

These factors are subject to considerable variation, and, provided the present statistics remain reasonably constant, with the nuptial independence of the modern woman they are quite in keeping with genetic principles.

Short Visits to Near Clinics :
III.—The Royal Masonic Hospital

By Gavin Thurston, Esq.

THE Royal Masonic Hospital at Ravenscourt Park was opened by Their Majesties the King and Queen in the summer of 1933. It is, at the moment, the most up-to-date in the world, and a glorious result of consultation between Medicine, Art and Architecture.

I missed my way on a bitterly cold afternoon. A passer-by bade me " bear round to the left by the tramlines ; you can't miss it "—and he was right. I imagined myself a cinema diplomat arriving at the Embassy, and recommend the phantasy to others as the appropriate frame of mind for a visit. I ascended the steps, pausing to admire the magnificent portico, when the door was flung open—but before we receive the general salute of the palace guard let us consider the plan of the building.

Not being architecturally-minded, let me refer those interested to the *Architectural Review* of August, 1933. The hospital consists of four blocks—administrative, ward, electrical and surgical—and an annexe. The whole is built in red brick, which gives a pleasing warm atmosphere. In keeping with modern thought are spacious sun-balconies and large windows, which will be a source of despair to the cleaning staff. The style is modern ; I cannot say more. The buildings are disposed in the form of a wine-glass : the electrical and surgical block the base, the annexe being a swelling on the stem and the ward block the bowl, into which the sun pours his ultraviolet vintage. The administration building is situated east of the ward block. The hospital has a placid dignity ; nowhere is there a trace of elaboration or that laborious symbolism which can cause such pain.

Straightening my tie and feeling for my sword-hilt I proceeded through the main entrance in the administrative block. Here I was greeted by the Clerk of Works and three structural gentlemen who completed the party. After the usual sweet nothings we looked about us. The floor of the main hall is tesselated and free from furniture. I cannot do better than quote Lord Wakefield : " The patient or his sorrowing friend entering the noble, dignified and beautiful entrance hall cannot but be momentarily forgetful of sickness or distress." This impression of reliability and thought for the sick remained throughout our tour of inspection. The hall extends the complete height of four floors, with a balcony at the first floor level.

On the staircase I restrained my desire to break a fire alarm with the metal hammer provided, and paused to look down into the hall. One could feel illustrious men and beautiful women entering on their ceremonial occasions. And so to the board-room. What momentous decisions, what eloquence will these walnut-panelled walls hear ! Never will chairman or treasurer nod beneath their impressive stateliness. I still had the impudent thought that I was acting in a film, and looked for a uniformed figure to take the news of the treaty from my expiring grasp. My companions brought me back to reality by pointing out that all the wood and materials used were British Empire products.

The rest of the administration block is occupied by offices, in which the clerical details of the hospital are dispensed. There are also three very comfortable suites for the resident medical officers and Matron's and Assistant Matron's rooms.

We passed along a weatherproof link to the ward block. This will accommodate 200 patients, but at present only the top two floors are occupied. The block is U-shaped, the open end facing south. The ground floor and three floors above are entirely devoted to patients. Each floor is divided into two units, and a consideration of one will serve for all. No distinction is made between medical and surgical cases.

The unit we inspected contained four four-bed wards and eight single rooms. Each ward is light and airy, with ample space for each patient. In the four-bed wards the beds can be screened from each other by curtains. I went to a window and looked upon the delightful courtyard with the lily-pond and flower-beds. Windows and beds are arranged so that the patient can look out comfortably. The beds themselves show no unusual features, but the sufferer from post-lumbar puncture headache will be grateful

for each patient has a button which works a buzzer outside. When this is used a tell-tale lamp glows over the door, so that the sufferer is spared anxiety lest the apparatus should be out of order. The rooms are sound-proof and the corridors designed to cut out echo.

Instead of the customary sitting-room, Sister is accommodated in a bay off the passage, so that she can exercise more vigilance over her charges. The patients' psychology is considered, but Sister is here for good, and I am sure she will miss the feet on the mantelpiece in moments of relaxation.

Included in each unit is a linen room, " usual offices " for patients, and steriliser and sluice rooms. I was deeply interested in a kind of toast rack of hot water pipes for warming bed pans. An innovation is a flower-room, which has a shelf and sink where stalks can be trimmed and water changed without undue mess. The unit is completed by a recreation room for patients and a sun-balcony. The children's department on the third floor is similar, apart from appropriate decoration.

The kitchen, in accordance with modern usage, is on the top floor, so that patients are not disturbed by the clatter of plates or the elusive cabbage. The cooked food is sent down in the service lift and distributed from the ward kitchen in each unit. In addition, there is a dietetic kitchen under skilled management and a kosher kitchen for Jewish patients.

We descended to the ground floor of the ward block, and I may here mention the unfamiliar accuracy with which the lifts stop on the same plane as the floor level. Through a second link to the Annexe, which is in the stem of our wine-glass. On one side of the ground floor is the receiving hall for ambulance cases, on the other is the boiler-room. The water for the hospital is heated by oil, saving space, labour and dirt. The oil is stored in a tank in the grounds and led to the boiler-room by a pipe line. On the four upper floors are linen rooms, a dental and ear nose and throat room, and the sterilising chamber. The steriliser is of modern pattern and enclosed to prevent the escape of steam. I was filled with admiration for the myrmidons who understand all the gauges and taps.

The electrical and surgical block at the base of our glass was the next call. On the ground floor is the Nurses' Dining Hall; I understand that there is, as yet, no nurses' home, but did not quite like to ask where they sleep. The dining hall is large, and it does not seem to offer much prospect of quiet conversation. On the next floor is the electrical department, divided into radiological and physiotherapeutic sections. The X-ray plant is the most modern in the world. It is housed in a special room, which can be inspected through a window from the control room. The door into the room containing the plant actuates a switch, which automatically cuts off the power should anyone try to enter while the current is running. The actual skiagrams are regulated at a main switchboard, so that the patient is undisturbed by the usual cracklings and buzzes which accompany an X-ray examination.

The Physiotherapy department includes exercise rooms and mud and foam baths. I was amused by a douche room with hosepipes like the Gorgon's head where the most exacting arthritic or colon fiend can indulge his tastes.

The operating theatres are on the top floor and are arranged in two suites with anæsthetic rooms and a common surgeons' preparation room. The theatres have been designed after consultation with surgeons, so I was presumably viewing the ideal conditions for operating. They seem to be unnecessarily large, the smallest being bigger than our own top-floor theatres. The walls are a light green, which gave the members of our party an icteric tinge. The windows occupy the whole of one side and about a third of the sloping roof. There are shadowless lights, and the ceiling is flood-lit for more diffuse illumination. Taps deliver hot and cold water and sterile saline from a reservoir in the preparation room. An illuminated panel with clips for X-ray films is set in the wall. A special theatre is provided for operating with the fluorescent screen and there is a plaster room. On the theatre floor are instrument rooms and a surgeon's room with lockers and shower-bath. No operations were in progress at the time of my visit.

Out last visit was to the mortuary. This contains a refrigerator, viewing room, and post-mortem room. No notable features here; there is a small side-room for the dissection of viscera, but I was told that pathological investigations and blood chemistry are carried out at the adjacent Queen Charlotte's Hospital.

We walked round the outside of the hospital, and I was again struck by the unassuming beauty of the buildings. I left, no longer feeling I was in a film, but with a twinge of regret that our voluntary hospitals are not so well equipped.

Christmas—The Natural History, Ætiology and Treatment

Definition.—An infectious disease of the English nation characterised by gastro-intestinal upsets associated with mental derangement.

Distribution.—It is epidemic in December and endemic in England. Sporadic cases occur in other parts of the world where the English have penetrated. Males and females are equally affected. Children are not exempt. In them the disease takes the form of severe delusions (Santa-klause) and avariciousness.

Pathology.—Knowledge of the morbid anatomy is distressingly vague as the disease rarely proves fatal, except in those whose vitality is already weakened by illness such as patients in hospital. Gibb,[1] however, has noticed an abnormal amount of post-mortem staining and ulceration in the intestines. Nikilson has never found anything in the gut.[2] Warthin has demonstrated spirochætes in the carotid bodies.[3]

Ætiology.—Many attempts to isolate a specific organism have failed. It has been thought that, owing to the amazing infectiousness of the disease, a filter-passing virus may be the causal agent. No immunity is conferred on the unhappy sufferer, as the attacks recur annually with painful regularity. Warthin's findings (*vide supra*) confirm the French school of thought.

Course.—The onset is slow and insidious, but Dickens records an interesting case of one Scrooge who was singularly immune until late life, when he had an acute and severe attack commencing suddenly with vivid hallucinations.[4] The early signs are a progressive uneasiness, restlessness and dissatisfaction. The patient rushes about feverishly buying things he can ill afford and distributing sums of money to those attending him. *Folie de grandeur* is not a symptom—an important diagnostic point. As the height of the illness is reached, there is an increasing thirst and a tendency to hoard food. Sufferers tend to gather together in groups, thus adding to the severity and spread of the disease. They mutilate the country by tearing off boughs from trees and bushes, and even uprooting small trees and with these they litter their rooms. A description of the ritual associated with mistletoe would be out of place here; students should consult their Frazer.[5] On the 25th day the disease is at its height and the unhappy sufferers lose all self-control. Surrounded by fellow-patients and mechanical noises, they eat and drink to excess, the last appearing to comfort them, but actually only increasing the severity of the condition. Males and females let off fireworks (they are then known as "crackers"). In institutions where, owing to cramped conditions, a severe and virulent form is prevalent, the males dress themselves up and, with painted faces, march round uttering strange and libidinous cries—a pitiful sight to the observer but apparently not unattractive to the females.[6] Towards the end of the day the crisis occurs, and at this stage the higher centres are cut off, many of the males resembling spinal animals. There is amnesia, paræsthesia, aphasia, apraxia, ataxia, agnosia, amentia or dementia, and occasional amaurosis with scotomata. The patients then spend a disturbed night with all the symptoms and signs of acute food poisoning; for details consult Whiffle. In the morning there is stomatitis, leukoplakia, tympanites and violent bilateral headaches. Patients do not "take" at all well. The disease then passes off gradually with relapses for the next seven days. Owing to the coincident amnesia the convalescent is little aware of the dangerous condition he has passed through.

Treatment.—There is little doubt that if cases could be isolated through the epidemic period the disease could be stamped out. This is at present impracticable. Vaccines are useless, drugs hopeless and operation definitely dangerous. Good and willing nurses are essential. The French school give arsenical injections. Byle takes a wide view, but has tried leeches, Hutch intestinal antiseptics, Burst the mercury tube, Louthwaite has tried everything, Boulton is of the opinion that the patient should be kept during the whole illness in an Oxygen tent; Conybeery recommends working up an immunity. The writer is in favour of adopting the medical treatment of eclampsia for the severe cases, but for mild cases the irrigations could be dropped and the patient kept in a semi-dark room undisturbed with a skilled nurse in constant attendance.

REFERENCES

1. Gibb.—A Quicker and Better Method of Evisceration. Illustrated. Medici Society.
2. Nikilson.—Beetles and the Greek Philosophers.
3. Warthin.—My Life Quest, The Spirochæte.
4. Dickens.—A Christmas Carol.
5. Frazer.—The Golden Bough.
6. For similar savage customs readers should consult the standard works on Anthropology, especially the concluding paragraph of the second chapter of Malinowski's "The Sexual Life of Savages."

C. G. B.

Correspondence

Medicine in the Falkland Islands

To the Editor of the GAZETTE

SIR,—One of the outposts of the British Empire is undoubtedly the Falkland Islands, and in England very little is known of this outpost. It lies 500 miles from the east coast of South America, about 1,000 miles south of Montevideo. Most people imagine that these islands lie within a stone's throw of the North of Scotland, and, if this idea is not corrected, someone will one day go 7,000 miles further than was their intention.

Most people do not see the Falkland Islands till the boat is well in Stanley Harbour, but an exceptionally good sailor may stand on the deck of the small 600-ton steamer which has carried him from Montevideo and see the East Island start as a small spot and grow to the dimensions of a mountain of brown earth.

This brown earth, which looks so desolate to the newcomer, is in reality rough grass similar to the Yorkshire moors, but its surface is broken only by a few rocks, as there are no trees at all. The sight of houses, looking just as they do in England, does much to brighten the landscape, but a man must live with this apparent desolation before it becomes pleasing to look upon. In time the lakes and mountains and the very beautiful sunsets over the sea grow on you; nevertheless, on a stormy day there can be few places that look more miserable.

Indoors the story is very different. The houses are English to their foundations and only English people live on these islands. It is difficult to believe that things can be so like home so far away from England.

Medicine in the Falkland Islands is rather a work of art carried out against adverse conditions by the M.O. Transport is his great problem, as there are no roads of any kind outside Stanley, and the only means of locomotion is the horse. To make matters worse the population is scattered all over the islands in farms; there are seldom more than 30 people within 20 miles of each other. Very often the M.O. has to ride 50 miles to see a case, and this feat cannot be accomplished in under eight hours. Acute cases naturally suffer under such circumstances, but it is a providential thing that disease of any kind is rare and acute disease very rare.

The national disease of the colony is the chronic appendix, denied existence by all the leading surgeons in England. There is no doubt of its existence, for it occurs on average in every third person in the colony. It never calls for emergency surgery, but goes on causing discomfort till an operation is performed, and operation is an infallible cure. The people who deny the existence of this disease, as I did when I came here, do so out of pure ignorance.

Apart from this, disease is a rare thing on these islands, and it is fair to say that the wind, both inside and out, is the next great trouble here. It seems likely the sheep are at the root of the matter, for everyone lives mainly on mutton, and there is not nearly enough green food taken by most people. This may also account for the dreadful condition of the teeth of the Falkland Islanders, for to see a good set of teeth would be a red-letter day for the M.O. It is a good thing for him and everyone else that the dread complications of bad teeth, with the exception of appendicitis, do not occur.

Before putting this letter in the monthly post-bag, I would like to say that the M.O. here leads a fine healthy life, and no one need fear coming here so long as he likes riding and can on occasion face a journey to one of the small islands in a fishing trawler or even something smaller.

Yours, etc.,

T. P. BINNS.

Fox Bay,
W. Falkland Island,
South Atlantic.

The College Reading Room

To the Editor of the GAZETTE

SIR,—Adopting the suggestion in a recent letter in these columns, the daily newspapers are now obtainable in the College Reading Room by 9 a.m.

May I once more draw the attention of members of the Students' Club to the *strict observance* of the rule, that no periodical, etc., may be removed from the Reading Room? This rule, therefore, forbids the borrowing of magazines for reading in the Dining Room. Copies of favourite journals are very frequently missing, much to the chagrin of other members who wish to peruse them.

Efforts are constantly made to make the Club premises comfortable and tidy, but, unfortunately, many members do not co-operate, and difficulties become almost insuperable. Especially is this the case in the Reading and Smoking Rooms,

where the armchairs, consequent upon the severe treatment meted out to them, are constantly in need of repair. This is an unnecessary drain upon the funds of the Club, and the money might otherwise be directed to a more useful purpose.

The Committee and Secretary are always delighted to hear of suggestions and complaints, and urge members to take a more lively interest in their own club. But the attendance at the general meetings is always absurdly poor.

Yours, etc.,

D. W. C. NORTHFIELD,
Hon. Sec., Students' Club.

Guy's Hospital,
S.E.1.

Nursing News

THE following nurses were successful in passing the Final State Examination in October last. Their names have been added to the General part of the State Register :—

P. Adams
S. Barrett
E. Belcher
J. Brierley
J. Caldwell
C. Carter
M. McAskie
M. Maughan
M. Milner
W. Moulton
V. Neele
M. Randles
E. Fitch
A. Gaynor
M. Goddard
P. Griffin
M. Hurry
K. Long
D. Longfield
H. Scales
B. South
A. Thomas
E. Wallace
M. Witcomb
G. Wood

AFFILIATED TRAINING
With the Cancer Hospital, Fulham
B. Golightly

Reviews

Extraction of Teeth. By F. COLEMAN, M.C., L.R.C.P., M.R.C.S., L.D.S., Senior Dental Surgeon to St. Bartholomew's Hospital, Senior Dental Surgeon to the Royal Dental Hospital, Examiner on Dental Surgery University of London, Member of Board of Examiners in Dental Surgery Royal College of Surgeons of England. Published by Messrs. H. K. Lewis & Co., Ltd. Third Edition. Pages viii, 232. 131 Illustrations. *Price* 12*s.* 6*d.* net.

"THE extraction of a tooth is not a crude or ugly operation when skilfully performed . . . skill in the operation is only attained by the training and development of a sense which may be described as partly tactile and partly muscular."

This quotation from the new edition of Mr. Coleman's book describes well the more modern methods of tooth extraction, and should be borne in mind by the student who is about to embark upon his first month's "locals."

In this small volume there is much information of great value to the student at this stage of his dental education. The hundred odd pages on local and general anæsthetics and on the causes and arrest of hæmorrhage are a mine of useful information. In the remaining 130 pages on extraction, while one is convinced of the author's sincerity in the views he states, one cannot, however catholic, agree with many of his statements. One feels that the three "full" forceps in his set of instruments might well have been excluded in favour of "bayonets" and "fine lower roots." His hankering after the use of full forceps is odd, in view of the fact that he is so particular that forceps should fit the tooth well. The combinations of slightly different positions of the three roots of an upper molar frequently make it impossible for "full" upper forceps with the three fixed grooves in their blades to fit the tooth except over two of its roots, which bayonet forceps will almost always do with certainty. Always examine the tooth still held in the forceps immediately it has been extracted and see how it has been gripped; one can learn much from this.

For a mysterious reason never discussed in textbooks, the blades of lower "fulls" do not meet when the forceps are closed; the result of this is that when the forceps are fitted to the tooth (and they should fit in just the same place as do lower "roots") the handles are still almost in the closed position and afford no grip for the hand. For this reason they are of little use except for teeth with very large crowns.

The surgical removal of teeth is relegated to the last 25 pages of the book, while the curettage of sockets and the trimming of sharp pieces of alveolar bone after extractions are dismissed without a fair hearing. One feels that the use of the scalpel and periosteal elevator might have been given a more prominent position, and the forma-

tion of gum flaps discussed at more length. This would be valuable information to the student who, with the help of the A.H.S., would resort to the use of these when, on extracting his first tooth on the first day of his first three months "locals," he snaps off a third of its exostosed root. And when this accident happens let us hope they will not cheerfully leave the piece behind assuming it to be "healthy," as is suggested on page 56, but will make a large flap and remove bone until the root can be removed, and stitch the flap back with black silk, easily visible, and more comfortable in the mouth than horsehair or catgut.

We hope that in the next edition of this admirable and well illustrated work—and there should most assuredly be one—these things will be dealt with at greater length, possibly at the expense of cutting down the chapter on Local and General Anæsthetics.

Sport

Rugby

Guy's v. Richmond

AT Richmond on Saturday, December 2nd, Guy's were rather fortunate to win by a dropped goal (4 points) to a try (3 points). It was a bitterly cold day, and undoubtedly the weather affected the attendance, which was very small. From the spectators' point of view the game was not very exciting; numbed fingers caused by the biting wind was responsible for inability of the players to hold the ball, and knocks-on or fumbled passes caused many movements to break down before much headway had been made.

During the first half the Richmond pack were determined to make it a forward game, and up to the interval were very successful. For a time they made Guy's defend desperately, when the Hospital had to counter several fine loose rushes by the Richmond forwards. However, some clever kicking to touch by Giesen, Thomas and Clegg sent them back on several occasions.

Although Guy's obtained their fair share of the ball in the set scrums, Bowles was far below form, and as a result Guy's did not get the ball back so often as their opponents—and when they did they could make little headway owing to the quick breaking of the Richmond back row.

Near the interval a splendid run by Chapman, the live wire in the Richmond attack, carried him over the line and was in the act of touching down when Johnson caught him and brought him down with a fine tackle. The ball went loose, but luckily there was nobody up, and Guy's managed to clear.

Half-time arrived with a blank score-sheet, but, on resuming, the Hospital improved and gave a better display. On two or three occasions they came within an ace of scoring, but Richmond's defence was too good for them.

After Hogbin had just missed a penalty kick, Richmond retaliated with a fine forward rush to the Hospital line, and eventually Iliffe picked up and touched down for a try—too far out for Lawrence to convert.

Guy's again carried play to their opponents' 25, and Giesen, who was playing with a damaged ankle, made one very fine run from half-way, and was only overhauled by Crabtree 10 yards from the line.

After a passing movement had broken down, Thomas dropped an excellent goal with his left foot in the last minute of the game.

Team.—W. B. Clegg; A. G. Johnson, J. E. Giesen, J. van A. Steytler, G. E. C. Peacock; I. K. Thomas, V. H. Bowles; M. R. Kark, A. G. Heberlein, C. S. Darke, I. G. Robin, R. J. Drummond, T. Morgan, R. A. P. Hogbin, A. R. Clarke.

Hockey

Guy's v. R.N.C., Greenwich

AT Greenwich on Wednesday, November 29th, Guy's played the Royal Naval College and a well contested game was seen. The Hospital were not at full strength, but all those who substituted played well; Phillips at left inner appeared to have a good idea of the game and gave some good passes.

The R.N.C. opened the scoring with a good goal from a corner, shot by their inside left who always looked dangerous when he had the ball. After the next bully the ball was well controlled by the home side's forwards, but on reaching the circle they were held up by Alakija and Greene, and a general scrimmage round the Hospital's goal-mouth gave Mayston some anxious moments, but he came out supreme, and a delicate situation was saved.

Guy's now attacked and kept play in the opponents' half for some minutes, but later a free hit for the College was given in the Hospital's 25, and, owing to lack of marking tightly by the backs, another goal was obtained for the home side.

Before half-time the College had scored again, and at the interval they led 3—0.

In the second half Guy's settled down to a persistent attack, but, in spite of the invaluable support of R. G. Archer at centre half, some admirable opportunities were not taken to the best advantage. Time and again the opponents' circle was reached, but sometimes owing to delay in shooting, and at others to hitting the ball too far ahead, a goal was not forthcoming for the Hospital. The College goalie was chiefly to thank for this, as he played a great game and ran out with confidence.

It was a pity that Franklin was starved on the wing in the second half, as, given a chance, he might easily have reduced the opponents' lead.

Team.—E. A. Mayston; O. B. Alakija, A. C. Greene; L. A. Quick, R. G. Archer, A. E. Loden; R. C. Hill, J. S. W. Dryland, E. B. Rowe, C. E. Phillips, J. B. Franklin.

Guy's v. Standard Telephones

THIS match was played at Colindale on Saturday, December 2nd, in a biting cold wind, and resulted in a draw, both sides scoring twice.

Soon after the home side had scored from a corner, play was temporarily stopped by an unfortunate accident, in which one of their players dislocated his clavicle and had to be assisted from the field. The Hospital were also playing ten men, as E. A. Mayston, the goalie, assisted the injured man to hospital, and O. B. Alakija put on his pads and almost froze in goal. After this interruption the game proceeded, but at an immeasurably slower rate, and half-time was blown with no further score.

After the interval Guy's attacked more briskly, and after shots from most of the forwards had been saved, Franklin managed to push the ball over the line to equalise. There was a considerable amount of wild hitting and not enough constructive movement on the part of both sides.

Another break-through by the Hospital forwards ended in Rowe scoring a good goal from centre-forward.

Standard Telephones made one or two rushes, but the Hospital defence held out until the last minute, when victory was snatched from them and the result was a drawn game at 2—2.

It was nearly dark when the umpire blew for "no side," and perhaps this may have accounted for the appalling standard of hockey shown by both sides.

Team.—E. A. Mayston; O. B. Alakija, A. C. Greene; C. F. Wright, R. G. Archer, A. E. Loden; R. C. Hill, J. S. W. Dryland, E. B. Rowe, J. B. Franklin, E. A. Moore.

Guy's v. University College Hospital

AT Motspur Park on Wednesday, December 6th, on an iron-hard ground, University College won by 4 goals to 1. In the abnormal conditions the best schemes often went awry, and everyone missed their shots at times, but forwards and halves used the push-shot and controlled the ball well enough to make combined movements possible.

The Guy's forward line played well in initiating and developing their attacks, particularly in the second half, when they were far more often attackers than attacked; but they threw away their chances of scoring by fiddling about in the circle, trying to better their shot, so that the defence had time to pack round and prevent the shot being made at all.

University College Hospital seldom failed to score once they reached the circle, and in this their right wing pair, Kempsey and Hafner, were well to the fore, the latter scoring the two goals by which the visitors led at half-time.

In the second half, after Dryland had scored for Guy's, Wheeler, the visitors' centre-forward, again put them two up with smart shots.

Throughout the game it was difficult to keep the ball down, and play tended to become rather dangerous, with the backs driving very hard.

For University College Hospital, Keall, their centre-half, deserves much of the credit for their victory; in attack he was a great supporter of his forwards and in defence he was invaluable.

Archer, the Guy's centre-half, played extremely well, and Thomson at full-back was nearly always safe.

Team.—H. V. Brown; A. C. Greene, L. C. Thomson; C. F. Wright, R. G. Archer, A. E. Loden; A. S. Bookless, E. B. Rowe, J. S. W. Dryland, J. E. Elliott, J. B. Franklin.

Guy's v. R.M.C., Sandhurst

ON Wednesday, December 13th, Guy's visited Camberley for their annual match with the R.M.C., and, although they fielded rather a weak side, a very fast game resulted in a goalless draw.

It was freezing and the ground was like concrete, but it was not bumpy and the ball was kept down, so that play did not become dangerous. The chief feature of the game was the good play

by the defence of both sides; the Hospital backs were distinctly on form, Greene being much safer than usual, and he and Hill stopped many forward rushes.

The ball travelled at such an exaggerated pace that the forwards found it very difficult to control, and often what might have developed into good combined movements led to the ball going out of play. In spite of this, however, Porter nearly scored in the first half by dashing through and taking a pass from Loden at full speed, a mighty shot rebounding off the pads of the goalie, who had come out.

Half-time was called with no score by either side. In the second half the Hospital attack seemed to tire and there was no real combination, though Franklin and Porter usually looked dangerous.

For the R.M.C. their centre-forward was extremely fast, and managed to control the ball in an uncanny way on such a hard ground. His individual efforts showed initiative, and the combination between him and the inside left was only prevented from taking effect through the close marking by Archer, who played well throughout, and the rest of the defence.

The R.M.C. proved delightful opponents, and thanks are due to them for a hard game and a very enjoyable time.

Team.—H. V. Brown; A. C. Greene, T. C. Thorne; R. C. Hill, R. G. Archer, A. E. Loden; A. S. Bookless, K. R. D. Porter, J. S. W. Dryland, C. H. Phillips, J. B. Franklin.

Guy's v. West Herts.

ON a concrete ground at Watford on Saturday, December 16th, Guy's lost 1—3 to West Herts. in a very fast game. West Herts. started off at a tremendous pace and attacked persistently during the first half. Their forwards combined well and were quick off the mark, so that the Hospital backs were kept busy, but some good saves by Brown made it some time before the home side managed to score, and half-time was called when they were two goals ahead.

After the interval Guy's were more together, and the forwards attacked and nearly scored on several occasions. Archer played well at centre-half and fed his forwards well, if they did not always make the best use of his passes.

West Herts. were very quick on the ball, getting their passes in just right and, after several shots at goal, they eventually got one past Brown in the second half. Soon after this a well followed up shot by Jelly resulted in his scoring for the Hospital.

Play now remained even for the rest of the game, and had it not been for several good saves by Brown, the score might have been considerably larger.

Team.—H. V. Brown; A. C. Greene, C. A. Boucher; R. C. Gill, R. G. Archer, A. E. Loden; A. S. Bookless, K. R. D. Porter, G. O. Jelly, J. W. Dryland, J. B. Franklin.

Golf

Final Round Inter-Hospital Cup

Guy's v. St. Bartholomew's

THIS match was played at West Hill on Wednesday, December 6th. Encouraged by our victory over our usual conquerors, St. Thomas's, we commenced the day with the satisfying knowledge that we were really in the Final at last. The weather conditions were far from pleasant; an extremely sharp frost overnight had made the ground as hard as iron. This made it extremely difficult to stop the balls on the greens, and putting became a positive nightmare. This was particularly noticeable in the morning, but in the afternoon conditions slightly improved.

B. J. Doran had early trouble with his driving, to such an extent that he failed to arrive at all for the foursomes, his car having broken down. This was not exactly a helpful start, losing for us, as it did, one foursome. However, thanks to steady play by the remainder of the team, we ended up the morning's play in leading by 3 matches to 1.

H. C. A. Weighell and C. B. Elstob combined well in the top pair, to win by 4 and 2, as did the second pair, P. Hanbury and F. I. Evans. In the bottom match H. B. Thornton seemed to be in trouble with his driving, finding it difficult to obtain a grip on the frozen tees, and he and his partner, D. A. Ibbetson, turned three down. At the 16th hole, Thornton holed a difficult downhill putt for a win, which put them one up. The 17th was halved, and a win at the home hole gave them victory by two up after a very exciting match.

In the Singles in the afternoon B. J. Doran's driving improved to such an extent that he beat J. Wilson by the wide margin of 6 and 4. P. Hanbury rather surprisingly lost to C. M. Carr in the top single, but was not quite up to his best form. Others who won were C. B. Elstob, H. B. Thornton and D. H. Ibbetson. Thus the singles were halved at four matches each, but our lead in the foursomes gave us the tie at 7 matches to 5. This is the first time since the Great War that Guy's have won the Golf Cup, and it has given us much hope and encouragement for retaining it in future years.

FOURSOMES

Guy's		*Bart.'s*	
H. C. A. Weighell C. B. Elstob (4 & 2)	1	C. M. Carr H. D. White	0
P. Hanbury F. I. Evans (4 & 3)	1	C. D. Wedd W. Wilson	0
B. J. Doran A. L. Young	0	J. W. Graves J. Wilson (w.o.)	1
H. B. Thornton D. A. Ibbetson (2 up)	1	R. I. E. Williams J. M. Robins	0
Total	3	Total	1

SINGLES

P. Hanbury	0	C. M. Carr (2 & 1)	1
H. C. A. Weighell	0	J. N. Graves (1 up)	1
C. B. Elstob (3 & 2)	1	C. D. Wedd	0
H. B. Thornton (4 & 3)	1	W. Wilson	0
D. A. Ibbetson (4 & 3)	1	H. D. White	0
B. J. Doran (6 & 4)	1	J. Wilson	0
F. I. Evans	0	J. M. Robins (3 & 1)	1
A. L. Young	0	R. J. G. Williams (3 & 2)	1
Total	4	Total	4

Squash Rackets

A MEETING of representatives from each hospital was held on December 8th at the house of Mr. A. Hope-Gosse; it was made known that a Challenge Cup had been presented by The Medical, Sickness, Annuity and Life Assurance Society, to be competed for by the various hospitals.

It was decided that each club should be affiliated to the Squash Rackets Association, and that the season should extend from October 1st to March 31st. For the purpose of competing for the Cup it was decided also that two leagues should be established, an American Tournament to be held in each league, and the winners of each league to play each other in the final round. The first league consists of St. Thomas's, University College Hospital, King's, and the London Hospital. The second league consists of Guy's, St. George's, St. Mary's, St. Bartholomew's, and the Middlesex Hospital. At the end of the season the lowest team in the first league and the highest team in the second league are to exchange their positions.

It was further decided that any person holding hospital appointments is eligible to play in those matches. The competition is to commence this season. A. Hope-Gosse was then elected President of the United Hospitals' Squash Rackets Club, E. M. Buzzard (St. Thomas's), Captain, and A. R. Walter (King's), Hon. Secretary.

A match was played against St. Mary's Hospital on December 14th, and was won 3—2. The results were :—

M. A. Partridge beat C. N. Goss, 3—1.
C. A. Boucher lost to E. Schennser, 2—3.
R. A. P. Hogbin beat A. G. Cross, 3—2.
J. Forster lost to P. F. Walley, 1—3.
P. W. Clarkson beat L. T. Bond, 3—0.

The Hospital Tournament is now nearing completion. The finalists are P. C. Alexander and C. A. Boucher. The entry numbered 74.

Various fixtures, both away and home, have been arranged, to commence in the New Year. A fixture list will shortly be printed.

Hospital Information, etc.

Pass List

UNIVERSITY OF LONDON.
THIRD M.B., B.S.
November, 1933.
PASS.

I. A. Gavin
John Grocott
R. A. Q. Lay
J. B. Robinson
P. R. Wheatley

GROUP I.

A. R. V. Patel
V. B. Reckitt

GROUP II.

F. R. Kilpatrick
J. A. W. Miller
R. B. Peckham
W. P. Stamm

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
FINAL F.R.C.S.
November, 1933.

A. C. Lysaght
E. J. Greenwood
T. Schrire
M. P. Reddington
G. J. O. Bridgeman
M. S. Hulke
F. P. Furkert

Change of Address

G. T. Willan, 14, York Avenue, Hove, Sussex.

Death

REYNOLDS.—On December 14th, 1933, at 11, Brixton Hill, S.W.2, John Reynolds, M.D., in his 87th year.

EDS. { C. G. B.
G. L. B. T.

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London SE1 9RT

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